



TAMIL NADU Dr.J.JAYALALITHAA FISHERIES UNIVERSITY

SELF STUDY REPORT FOR COLLEGE AND PROGRAMMES



**Dr. M.G.R FISHERIES COLLEGE AND RESEARCH INSTITUTE
PONNERI-601204
TAMIL NADU**

2021

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TAMIL NADU Dr. J JAYALALITHAA FISHERIES UNIVERSITY

SELF STUDY REPORT FOR COLLEGE

Submitted by

Dr. M.G.R Fisheries College and Research Institute

TH Road, Ponneri – 601 204

Tamil Nadu

6.5. SELF STUDY REPORT FOR THE COLLEGE

Tamil Nadu Fisheries University (TNFU) was established in 2012 at Nagapattinam district under Tamil Nadu Fisheries University Act, 2012. This Institute was declared open by the then Chief Minister of Tamil Nadu, Selvi. J Jayalalithaa. The Tamil Nadu Government has permitted (G.O.No.151 dated 25.07.2014) the Institute of Fisheries Technology, Ponneri to start the B.F.Sc. (Bachelor of Fisheries Science) Degree Course from the academic year 2014 with an initial student strength of 20 as per the prevailing University norms. Institute of Fisheries Technology, Ponneri was renamed as Fisheries College and Research Institute, Ponneri as per G.O.Ms.No. 89 dated 23.4.2015. Tamil Nadu Government has permitted (G.O.(Ms).No. 166 dated 12.8.2015) to increase the intake of students from 20 to 40 during 2015-16 and the strength was subsequently raised to 60, 60, 60, 60 and 45 numbers respectively during the academic years 2016-17, 2017-18, 2018-19, 2019-20 & 2020-21.

OBJECTIVES OF THE INSTITUTE

- ❖ To produce professionally qualified (B.F.Sc.) manpower to cater to the needs of the Fisheries Sector of the State.
- ❖ Development and popularization of viable and appropriate fisheries/ aquaculture technologies for the production and utilization of the fishery resources through research, teaching and extension programmes.
- ❖ Tailor made programmes to meet the need of the trainee sector which includes the fisher folk, weaker sections of the society, women SHGs and the rural youth to develop fisheries/aquaculture entrepreneurship.

6.5.1. COLLEGE ADMINISTRATION

As per the prevailing University (TNJFU) Statutes, Dean is the Head of the Institute. He will be responsible for resident teaching, research and extension education at the college or institute. The information regarding overall college administration is given below (6.5.1.1 to 6.5.1.7).

6.5.1.1.COLLEGE DEAN'S OFFICE ESTABLISHMENT

The College has sanctioned post of Dean which will be filled by Selection method after advertisement in the newspapers and on University website. The selection of the Dean is done as per the provisions laid down in the TNJFU Statute and for the tenure of three (03) years.

Name of the position (sanctioned)	Name of the Officer (at present)	Date of the appointment	Tenure	Appointed/ Nominated
Dean	Dr. B.Ahilan, M.F.Sc., Ph.D	12.09.2018	3 years from the date of appointment	Appointed

The Dean has separate office for overall supervision and administration of the institute. At present the Dean's office includes:

NON-TEACHING STAFF: SANCTIONED STRENGTH, POSITION AND VACANCY (as on 01.07.2021)

Sl.No.	Name of the Post	Sanctioned strength	Staff in position	No. of Vacancy
1.	Administrative Officer	1	1	0
2.	Assistant Accounts Officer	1	1*	0
3.	Superintendent	2	1+1*	0
4.	Assistant	3	3	0
5.	Junior Assistant	2	2	0
6.	Typist	4	-	4
7.	Steno – typist	2	1	1
8.	Lab Technician	2	2	0
9.	Lab Assistant	1	1	0
10.	Driver	2	2	-
11.	Assistant Engineer	1	1	-
	Total	21	16	5
*Engaged on contractual basis				

SPACE OF THE OFFICE

Facility	Area (in Sq. M)
Academic buildings	6140
Students hostels	1450
Housing for staff	290
Playground	16800
Administrative building	120
Open spaces	58081
Garden/Lawn area	1400
Library	185
Total Area	84466 (20.87 Acres)

6.5.1.2. MONITORING MECHANISM FOR QUALITY EDUCATION (ON-LINE)TEACHING

The Dean, Head of the institute supervises the faculty and student activities in the classrooms through internet enabled Closed-Circuit Television (CCTV).At present, there is dedicated CCTV cameras in all the four UG classrooms and also in the examination hall. With the help of this provision, the Dean ensures students and teachers time bound engagement in the class hours. Students of the

institute are encouraged to provide feedback through online tools like “Google forms”. At the end of every semester, a structured online questionnaire is given to each student to give their feedback to assess the teaching and learning process for the courses they have studied in that particular semester. Such mechanism is helping teachers to understand the graphical/percentage wise opinion of overall students in a particular matter. Students also give their feedback through individual mails as well as WhatsApp groups created for respective batches. In addition to it, in the dedicated counseling time, the student coordinator and counselor of the respective batch of students are appraising the students’ learning progress more importantly getting their feedback about the teachers and their teaching skills.

RESEARCH

PG/Ph.D. students’ advisory committee comprises of faculty from other constituent units (working outside the student’s institute) of the University. Therefore, there is a monthly video conferencing among the advisory committee members to monitor the progress as well as to evaluate research credits of PG/Ph.D. programmes through online video conference mode.

EXTENSION

The institute has an Annual Training Schedule (ATS) based on which trainings are being conducted dealing with various fisheries topics. A dedicated trainees’ WhatsApp group is immediately formed by the training coordinator and post training, the same is used as an interactive platform for feedback of the training through which further improvements in the upcoming training programmes are made.

6.5.1.3. CC/BOARD OF STUDIES

Dr. M.G.R. Fisheries College and Research Institute is a constituent unit of TamilNadu Dr. J Jayalalithaa Fisheries University hence it adheres to TNJFU’s Act, Status, Regulations and Rules. As prescribed in section 26 of the Act, each faculty shall have a Board of studies with following members.

- Dean of the faculty- As Chairman of Board of Studies
- Other Deans within the University
- All Directors of the University
- Controller of Examination
- Heads of the departments of the concerned Faculty
- Six elected representatives of two form Professors, Associate Professors and Assistant Professors of faculty
- Two experts in the concerned subject from outside the university to be nominated by the vice-chancellor

Date of conduct of Board of Studies (BOS) meetings for last seven years and major recommendations:

Date of Conduct of BOS meetings	Recommendation made
II BOS 18.09.2015	• Addition of a course on Fish immunology (1+1) for B.F.Sc. • Modifications in B.F.Sc. Curriculum in the courses offered in Department of Aquaculture, Fish Processing Technology and Fisheries Extension • Provision of separate seats for state department and Industry sponsored candidates in M.F.Sc. & Ph.D. programs • To increase the period of study for part time Ph.D. students
III BOS 08.07.2016	• To fix the percentage for entry of the other state Fisheries college students in PG programmes of TNFU • The Department of Aquaculture, FC&RI, Ponneri to offer M.F.Sc and Ph. D degree • To enable the PG &Ph.D students to work in Research Projects funded by Industries/External funding agencies from 1st year onwards simultaneously along with course work • Adopting the new Syllabus as per ICAR 5th Deans committee recommendations for the B.F.Sc degree programme from this academic year (2016-17) • Reorganizing the available staff in 7 Departments suggested as per the 5th Deans' committee recommendations at FC & RI, Ponneri
IV BOS 06.03.2017	• Synopsis approval for P.G and Ph.D. students – Guidelines • To start M.F.Sc., programme in the Department of Aquatic Animal Health Management, Department of Aquatic Environment Management, Fish Processing Technology FC&RI, Ponneri
V BOS 22.9.2017	• Semester-wise re-distribution of courses for B.F.Sc. • Rearrangement of syllabus / course contents for B.F.Sc. • Rearrangement of courses offered by the Department of Fisheries Biology and Resource Management in different semesters • To complete the Students Research Guidance Workshop during middle of the II semester for PG student • Fish Nutrition related UG course from Dept. of Aquaculture to newly created Department of Fish Nutrition & Feed Technology • To reschedule students READY programme
VI BOS 02.02.2018	• To raise the limit for Chairmanship of advisory committees. • To start new M.F.Sc. program in the Department of Fish Nutrition and Feed Technology • To revise the period for submission of Thesis synopsis. • To increase the number of credit load offered per semester.

VII BOS 06.07.2018	• To fix the time limit for completion of B.F.Sc degree • To develop evaluation criteria for the proposed students READY programme offered during 7th semester (0+20) and 8th semester (0+20) • To consider courses only from ICAR approved PG programmes as minor course for all the departments. • To evaluate research credits of PG programmes through online video conference mode by the members of advisory committees working outside the college/institutes. • To evaluate research credits of PG programmes through online video conference mode by the members of advisory committees working outside the college/institutes. • To introduce public viva voce for Ph.D. students to defend the thesis • To introduce pre-thesis submission seminar for postgraduate students.
VIII BOS 20.07.2019	• To start a new Ph.D. Programme in Fish Nutrition and Feed Technology • To start a new B.Voc Degree Programme in Aquatic Animal Health Management by the State Referral Lab for Aquatic Animal Health, TNJFU Madhavaram campus • To start B.F.Sc., degree programme on Self Finance Mode at Kanyakumari District • To fix procedures for the conduct of Pre-thesis submission seminar • To fix procedures for the conduct of open viva-voce for Ph.D.Students • To include students as member in Board of Studies (Fisheries Science)
IX BOS 09.10.2020	• To increase the pages and reduce font size in M.F.Sc and Ph.D. Thesis from 2018-19 batches onwards • To waive the mandatory requirement of minimum of one publication in a peer reviewed journal with NAAS rating above 6 before the conduct of the viva-voce examination for M.F.Sc Students • To change the credit hours required in the existing syllabus of the B.Voc. AAHM to maintain uniformity in the general education and skill components • To re-define the education qualifications for students seeking admission to B.Voc. (Industrial Fishing Technology) degree programme • To interchange the course components between V and VI Semester of B.Voc (Industrial Fish Processing Technology) degree programme. • To add Internship programme of Industrial Aquaculture, Industrial Fishing Technology, Aquatic Animal Health Management in addition to Industrial Fish Processing Technology in TNJFU B.Voc Regulations – Academic programme under 2.8. Registration in the subsequent semester

	• To add 'ASCI' next to 3.4. FICSI in B.Voc TNJFU regulations - Academic Rules under 3.System of Education (B. Voc. Degree)
X BOS 04.03.2021	• To ensure uniformity in the names of the departments of the Colleges offering B.F.Sc programme • To finalize the modalities for Student Research Guidance Workshop • To make external expert as Chairman of a PG/Ph.D. student if a student's entire research work is carried out in the external expert's organization • To modify the existing eligibility norms for Ph.D. admission • To reduce the minimum score requirement for service candidates of Tamil Nadu Fisheries Department in entrance examination for PG/Ph.D admission • To consider the evaluation of semester final theory answer scripts of UG, PG & Ph.D.as per 5th Deans Committee by the internal experts of TNJFU at the Head Quarters, Nagapattinam (By faculty staff other than the course teacher) • To evolve criteria for revaluation/ retotalling for regular and arrear examinations marks • To combine two environmental science courses into one course and the addition of one general education component course entitled critical thinking, academic writing and presentation in the syllabus of B.Voc (IFPT) degree programme

6.5.1.4. ANTI-RAGGING CELL

An anti-ragging committee has been constituted and the members of the committee are visiting the hostels (Boys and Girls) between 5 PM and 9.15 AM and the reports are sent to the Dean.

6.5.1.5. BIOLOGICAL WASTE DISPOSAL FACILITY

The biological wastes generated out of the student practical is regularly cleared by Ponneri Town Panchayat.



6.5.1.6. INSTITUTIONAL ETHICS COMMITTEE FOR EXPERIMENT ON ANIMALS

The Institutional ethical committee regulates and monitors the rational use of fishes for the experiments. The committee is also involved in drafting and review of procedures and protocols related to fish experiments.

6.5.1.7. COMMITTEE FOR PREVENTION OF SEXUAL HARASSMENT OF WOMEN AT WORKPLACES

Vishaka Committee of the University has been formed with effect from 20.02.2015. The present committee consists of one Professor and Head as a Chairman, two Assistant Professors and one superintendent as a member. Mrs. S. Agnes Daney Angela, Assistant Professor and Head, Department of Fisheries Extension, Economics and Statistics, Dr.M.G.R Fisheries College and Research Institute, Ponneri is one of the members in the committee. Committee will meet based on the complaints registered, till date no complaints have been registered. Therefore, so far no meeting have been conducted.

Similarly, the College level committee consisting of one Professor and Head as Chairman, one female Assistant Professor, one male Assistant Professor, One superintendent and one student as members was formed on 01.07.2019. Since no complaints have been received so far, no meetings have been conducted.

6.5.2. FACULTY

6.5.2.1. FACULTY STRENGTH

Sl. No.	Sanctioned Faculty	Faculty in place	Sanctioned posts	Vacant position against sanctioned post	Recommendations of V Deans' Committee
1	Professor	6 (1 + 3 ^b + 2 ^c)	1	Nil	7
2	Associate Professor	1	6	5	11
3	Assistant Professor	20 (19 + 1 ^d)	23	3	20
	Total	27	30	7-(3^b+1^e)=3	38

Note: a- Professors deployed from other units of the University; b- Professor shown against the post of Associate Professor; c- Professor shown against the post of Assistant Professor; d- Assistant Professor (in Contractual); e = Assistant Professor shown against the post of Associate Professor and functioning as Head of the respective department

6.5.2.2.FACULTY PROFILE (DEPARTMENT WISE)

LIST OF TEACHING STAFF- SANCTIONED STRENGTH, POSITION AND VACANCY (as on 01.07.2021)

Sl.No.	Name of the Post	Sanctioned strength	Staff in position	No. of Vacancy	Recommendations of V Deans' Committee
Dean's Office					
1.	Dean	1	1	0	1
I – Department of Aquaculture					
1.	Professor	1	1	0	1
2.	Associate Professor	2	1 ^a	1	2
3.	Assistant Professor	6	(1 ^f +5)	0	3
II- Department of Aquatic Animal Health Management					
1.	Professor	-	-	-	1
2.	Associate Professor	-	-	-	1
3.	Assistant Professor	2	(1+1 ^b)	0	2
III - Department of Fisheries Resource Management					
1.	Professor	-	-	-	1
2.	Associate Professor	1	-	1	2
3.	Assistant Professor	3	2	1	3
IV - Department of Aquatic Environment Management					
1.	Professor	-	-	-	1
2.	Associate Professor	-	-	-	1
3.	Assistant Professor	3	(1 ^b +2)	0	3
V - Department of Fish Processing Technology					
1.	Professor	-	-	-	1
2.	Associate Professor	1	1 ^a	0	3
3.	Assistant Professor	4	4	0	5
VI - Department of Fishing Technology and Fisheries Engineering					
1.	Professor	-	-	-	1
2.	Associate Professor	-	-	-	1
3.	Assistant Professor	3	(1 ^c +2)	0	2

VII - Department of Fisheries Extension, Economics and Statistics					
1.	Professor	-	-	-	1
2.	Associate Professor	2	(1 ^a +1 ^e)	0	1
3.	Assistant Professor	2	2	0	2
Total		31	28	3	39

Note: **a** = Professor shown against the post of Associate Professor and functioning as Professor & Head of the respective department; **b** = Professor shown against the post of Assistant Professor; **c** = Assistant Professor in contractual basis; **d** = Professor deputed from other unit of the university and functioning as Professor & Head of the respective department; **e** = Assistant Professor shown against the post of Associate Professor and functioning as Head of the respective department; **f** = Associate professor shown against the post of Assistant professor.

The present department wise faculty profile of Dr. M.G.R Fisheries College and Research Institute, Ponneri is sufficient to meet the academic requirement of the College.

6.5.2.3. CREDENTIALS OF THE FACULTY

The institution has employed competent faculty members with required qualification to accomplish the mission and goals of the institution.

Sl. No.	Name	Designation	Educational Qualification	Work Experience
DEAN				
1	Dr. B. Ahilan	Dean	M.F.Sc., Ph.D	30 years 7 months
Department of Aquaculture				
2	Dr.Cheryl Antony	Professor and Head	M.F.Sc., Ph.D	24 years 10 months
3	Dr.P.Chidambaram Professor	Professor	M.F.Sc., Ph.D	22 years
4	Mr.C.Navaneethakrishnan	Associate Professor	M.F.Sc., Ph.D	31 years 4 years
5	Th.T.L.S.Samuel Moses	Assistant Professor	M.F.Sc	6 years 3 month
6	Dr. S. Selvaraj	Assistant Professor	M.F.Sc., Ph.D	1 year 8 months
7	Dr.Ezhilarasi	Assistant Professor	M.F.Sc., Ph.D	4 months
8	Dr.Mahadevi	Assistant Professor	M.F.Sc., Ph.D	4 months
9	Ms.S.Sangavi	Assistant Professor	M.F.Sc	4 months
Department of Aquatic Animal Health				
10	Dr. A. Uma	Professor and Head	M.F.Sc., Ph.D	22 years 6 months
11	Dr.D.kaviarasu	Assistant Professor	M.F.Sc., Ph.D	4 months
Department of Fisheries Resource Management				
12	Mr.P.Pavinkumar	Assistant Professor & Head	M.F.Sc	4 years 1 month
13	Mr.K.Karuppasamy	Assistant Professor	M.F.Sc	4 months

Department of Aquatic Environment Management				
14	D. Manikandavelu	Professor and Head	M.F.Sc., Ph.D	32 years 6 months
15	Mrs. S. Aruna	Assistant Professor	M.F.Sc	9 years 1 month
16	Mrs.B.R.Sona	Assistant Professor	M.F.Sc	months
Department of Fish Processing Technology				
17	Dr.D.Sugumar	Professor	M.F.Sc., Ph.D	32 years 6 months
17	Mrs. NimishMol Stephen	Assistant Professor	M.F.Sc	5 years 11 months
18	Dr.N. Muralidharan	Assistant Professor	M.F.Sc., Ph.D, Postdoc.	4 year 1 month
19	Dr.L.Vinodkumar	Assistant Professor	M.F.Sc., Ph.D	1 year 3 months
20	Mr.K.Masilan	Assistant Professor	M.F.Sc	4 months
Department of Fishing Technology and Fisheries Engineering				
14	Mr. P. Velmurugan	Assistant Professor& Head	M.F.Sc	4 years
19	Mr. D.Arun Jenish	Assistant Professor	M.F.Sc	4 months
Department of Fisheries Extension, Economics and Statistics				
20	Ms. S. Agnes Daney Angela	Assistant Professor & Head	M.F.Sc	6 years
21	Dr. C. Lloyd Chrispin	Assistant Professor	M.F.Sc., Ph.D	4 years
22	Dr. L. Surulivel	Assistant Professor	M.Sc.,M.Phill.,Ph.D (Economics)	4 years

**PROFESSIONAL LICENSURE AND CERTIFICATIONS, HONOURS AND AWARDS OF
THE FACULTY**

Name	Designation	Honours and awards
Department of Aquaculture		
Dr. Cheryl Antony	Professor and Head	ICAR SRF - 1991 ICAR ARS- 1992
Dr. S. Selvaraj	Assistant Professor	1. Japan Society for the Promotion of Science (JSPS) Award for foreign researchers 2. Goodwill Ambassador of Kyushu University, Japan 3. Ministry of Education, Culture, Sports, Science and Technology (MEXT) Award 4. Bhomiaji Charitable Trust Cash Award For outstanding performance in the M.F.Sc. Programme 5. Tamil Nadu State Council for Science and Technology (TNSCST) award 6. Association of Fisheries College Alumni (AFCA) awards - Graduate Junior and Senior Award 7. TANUVAS Alumni Association Gold Medal for topper in UG 8. Mrs. T. Gopalan Nair Gold Medal for topper in UG 9. Prof. Rangaswamy's Prize for topper in UG Professional Fisheries Graduates Forum (PFGF) Dr. K.V. Devaraj Award
Mrs.V.Ezhilarasi	Assistant Professor	1. TNJFU appreciation award for developing technology for induced breeding, seed production and culture technology for pearlspot
Mrs. S.Sangavi	Assistant Professor	1. Best oral Presentation award on 'Next Generation Aquaculture: Panacea to Employment Challenges' received from ICAR- NAHEP, ICAR-CIFE, Mumbai 2. Young Researcher Award for quality of research work received from Institute of Scholars (InSc),

Department of Aquatic Animal Health Management

Dr. A. Uma	Professor and Head	1. Young Scientist Fellowship Award (2001 – 2002) – by Tamil Nadu State Council Science and Technology 2. K. Chidambaram Memorial Annual Award – 2007 from the Fisheries Technocrats Forum, Chennai 3. TamilNadu Young Women scientist Award for the Year -2009 in Biotechnology – received from TNSCST 4. Patent No.275411- Development of PCR Primers for White spot syndrome virus (WSSV) in shrimp 5. Patent – PCR primers for Hepatopancreatic Parvovirus (HPV) in shrimp 6. Best popular article award for the paper entitled “Use of Probiotics to improve production in shrimp culture in Tamil science conference 7. Best paper presentation award on “Edwardsiella tarda infection in ornamental Pangasius sp. catfish” from C. Abdul Hakeem college, Melvisharam, Vellore, 8. Best Researcher Award 2020 to recognize the contribution in research received from Tamil Nadu Dr. J Jayalalithaa Fisheries University
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Department of Fisheries Resource Management

Mr.K.Karuppasamy	Assistant Professor	1. Young Researcher Award for best research paper published in springer publication from Institute of Scholars , Bengaluru
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Department of Fish Processing Technology

Mrs. NimishMol Stephen	Assistant Professor	1. Recipient of Prestigious International Merit Scholarship (MonbukagakushoMextScholarship) from the Govt. of Japan / 2007-2010 2. University Distinction grade in MFSc (2003 – 2005) exam conducted by Tamilnadu Veterinary and Animal Sciences University, Chennai 3. Justice Ms. M. Fathima Beevi Award for the best MFSc student in Industrial Fish Processing Technology -2005 4. Dr. JJayalalithaa endowment (Gold medal) for the best lady student inMFSc. 5. Saraswati Scholarship -2005, Fair & Lovely Foundation, Mumbai 6. Dr. JJayalalithaa endowment (Gold medal) for the best lady student in BFSc. 7. Recipient of Student Project Scheme (2002-2003), Tamilnadu State Council for Science and Technology (TNSCST), Chennai
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Dr.N. Muralidharan	Assistant Professor	1. Received “Young Scientist Award” in International Conference on ‘Recent Advances in Food, Herbal and Nano Technology’ held at Latur, Maharashtra during 2018. 2. Received “Best Oral Presentation Award in the Third National Conference on Agricultural Scientific Tamil in 2017. 3. Best poster presentation award from International conference has been recognized by Prince of Songkla University, Thailand and honoured with “Pride of PSU’2016” award in 2017. 4. Awarded “Best poster presentation” in the International conference on EIQASFISH’16, Chennai in 2016. 5. Doctoral thesis entitled “Properties and applications of bio-nanocomposite films from fish and squid skin gelatins” has been awarded as “Dr. V.G. Jhingran Best Post-Graduate Overseas Thesis (Ph.D–Overseas category) 2015” by PFGF, India. 6. Skin, bone and muscle collagen extraction from the trash fish, leather jacket (<i>Odonusniger</i>) and their characterisation has been awarded as “Best paper of the year 2013” by AFSTI, Mysore, India. 7. Recipient of International Travel Grant from Faculty of Agro-Industry, PSU, Thailand to attend the International conference held in Malaysia’14 and Singapore’13. 8. ICAR-International Fellowship granted by Indian Council of Agricultural Research (ICAR), New Delhi, India for doctoral degree program. 9. Recipient of Pattukkottai Azhagiri Endowment Scholarship for Master degree program. 10. Recipient of Merit scholarship of the Tamil Nadu Veterinary and Animal Sciences University for Bachelor degree program. 11. Best oral presentation Award for paper presentation in ASTS Tamil Conference 12. Young scientist Award form Department of Biotechnology, College of Computer Science and Information Technology, Latur, Maharashtra for Presented a paper on Characteristics of Bio-Nanocomposite films From Tilapia Skin Gelatin Incorporated Withr Ethanolic Extract From Cocounut Husk
Mr.K.Masilan	Assistant Professor	1. Received “Appreciation Award” for research paper presentation in the 12th Asian Fisheries Aquaculture Forum (12th AFAF) held at University of the Philippines Visayas, Philippines 2. Received “TNFU- Appreciation award” as a co-

		author, for research paper entitled on “Carbon emission due to excess fuel consumption by the trawlers of Thoothukudi, Southeast Coast of India” 3. Received “Young scientist associate award” for outstanding contribution and recognition in the field of fish processing technology on the occasion of 3rd Global initiatives in agriculture and applied sciences for eco-friendly environment
Department of Fishing Technology and Fisheries Engineering		
Mr.D.Arun Jenish	Assistant professor	1. Received “TNFU- Appreciation award” as author, for research paperentitled “Comparative efficiency of fish trap with different funnel designs” 2. Received “TNFU- Appreciation award” as a co-author, for research paper entitled on “Carbon emission due to excess fuel consumption by the trawlers of Thoothukudi, Southeast Coast of India”
Department of Fisheries Extension, Economics and Statistics		
Ms. S. Agnes Daney Angela	Assistant Professor & Head	1. Dr. T.J Varghese Award during the year 2009 for Best Fisheries Graduate of India by the Professional Fisheries Graduates Forum(PFGF) 2. Alumini Senior Award during the year 2010 for outstanding performance in fourth B.F.Sc (2008-09) 3. Dr. C.V. Kulkarni Gold medal during the year 2013 for securing highest OGPA in M.F.Sc 4. Dr.Hiralal Chaudhari Gold medal during the year 2013 for securing first position in M.F.Sc (fisheries extension) 5. Best young professional award for scientific contribution in Tamil received from Tamil agricultural Science Society, New Delhi.
Dr. C. Lloyd Chrispin	Assistant Professor	1. ICAR - JRF for pursuing M.F.Sc. (Fisheries Extension) in Central Institute of Fisheries Education, Mumbai. 2. Innovation in Science Pursuit for Inspired Research (INSPIRE)Fellowship offered by Department of Science & Technology Government of India. 3. Best M.F.Sc Student 2010-11 award by ICAR-ICAR-CIFE, Mumbai. 4. Dr.Hiralal Chaudhuri Gold medal for securing the 1st position in the M.F.ScProgramme of Fisheries Extension of the academic year 2010-2012 5. B.N.Sharma Gold Medal for securing the highest OGPA in the M.F.Scprogramme (Fisheries Extension) of the academic year 2010-2012.
Dr. L. Surulivel	Assistant Professor	ICSSR Doctoral Fellowship, New Delhi (2009-12)

6.5.2.4. TECHNICAL AND SUPPORTING STAFF

STATUS OF OVERALL ADMINISTRATIVE, TECHNICAL AND SUPPORTING STAFF

Sl. No	Name of the Post	Sanctioned strength	Staff in position	No. of Vacancy	V Dean committee recommendation
Administrative Staff					
1.	Administrative Officer	1	1	0	1
2.	Assistant Accounts Officer	1	1*	0	-
3.	Superintendent	2	1+1*	0	1
4.	Assistant	3	3	0	3
5.	Junior Assistant	2	2	0	-
6.	Typist	4	-	4	-
7.	Steno – typist	2	1	1	1
8.	Lab Technician	2	2	0	-
9.	Lab Assistant	1	1	0	-
10.	Driver	2	2	-	-
11.	Assistant Engineer	1	1	-	-
	Total	21	16	5	-
Technical and Supporting Staff					
12	Skipper	1	1	0	-
13	Boson	1	1	0	-
14	Engine Driver	1	1	0	-
15	Mechanic Grade I (Mechanical Engg.)	1	1	0	-
16	Mechanic Grade I (Electronics and communication)	1	1	0	-
17	Mechanic Grade II (Marine Diesel Mechanic)	2	2	0	-
18	Turner	2	2	0	-
19	Fitter	2	2	0	-
20	Welder	2	2	0	-
21	Deck-hand	3	2	1	-
22	Lab. Technician	4	4	0	2
23	Lab. Assistant	4	4	0	2
24	Fishermen / Fish Processing Technician	15	11	4	-
25	Drivers	2	2	0	-
26	Farm Manager	2	0	2	1
27	Farm/ Hatchery Technician	2	2	0	-
28	Hatchery Manager	2	2	0	-

29	Farm / Hatchery Supervisors	6	6	0	-
30	Electrician	1	1	0	1
31	Plumber	1	1	0	1
32	Helper	4	2	2	-
33	Caretakers	4	4	0	-
34	Cook	2	1	1	-
35	Sweeper cum scavenger	4	4	0	-
36	Security	10	10	0	20
Total		79	69	10	
Total Non-Teaching Staff (Administrative Staff + Technical and Supporting Staff)		100	85	15	There is no standard recommendation for technical and supporting staffs
*Engaged on contractual basis in monthly consolidated pay					

The above mentioned technical and supporting staff are engaged in the overall day to day management of the institute. The aforesaid staff were also allocated to all the seven departments for managing the departmental activities. Department-wise status of technical and supporting staff are as follows.

S.No	Name of the Department	Staff	Staff in position
1.	Department of Aquaculture	Lab technician	1
		Lab Attendant	1
2.	Department of Aquatic Animal Health Management	Lab Technician	1
		Lab Attendant	1
3.	Department of Fish Processing Technology	Lab Technician	1
		Equipment Engineer	1
		Lab Attendant	1
4.	Department of Fisheries Resource Management	Lab Technician	1
		Lab Attendant	1
5.	Department of Aquatic Environment Management	Lab Technician	1
		Lab Attendant	1
		Assistant	1
6.	Department of Fishing Technology and Fisheries Engineering	Technician	1
7.	Department of Fisheries Extension, Economics and Statistics	Attendant	1

6.5.3.LEARNING RESOURCES



6.5.3.1. COLLEGE LIBRARY (DIGITAL)

The College library is established in a spacious new building of 3185 Sq. ft.in the ground floor. The Library of this Institute is unique of its kind, caters to the technical needs of the user end groups. The overall administrative of library control is vested with Dean. The library is open to students and staff members from 9 am to 6 pm on all working days and from 9 am to 3 pm on Saturdays. The library has a rich collection of around 2101 numbers of text books and reference book, 62 manuals, 343 institutional publication and 24 journals in all branch of fisheries science, 8 E-books, 3 E-journals and the collection is ever increasing.

The library facility consists of book section, reading hall, periodical section computer section and newspaper section. The reprography section and scanning facility is available for all students and staff. Nominal charge is collected for photocopying service. The library has a seating capacity for 70. The KOHA software is mainly used for library management and database of book in transition. The college library is monitored with CCTV facility. The college library is equipped with Wi-Fi facility to the students and staff. The library has eleven computers with Internet access. The library is managed by Assistant Librarian and open access system followed in the library.

6.5.3.2.LABORATORIES, INSTRUCTIONAL FARM, WORKSHOPS, DAIRY PLANT, VETERINARY CLINIC, HATCHERY, PONDS etc.

LABORATORIES

Departments	Name of laboratories	Area of Lab (in Sq.ft)
Aquaculture	DAQ UG Laboratory, Main campus	1200 Sq.Ft
	DAQ PG Laboratory, Main campus	800 Sq.Ft
Fisheries Resource Management	DFRM UG Laboratory, Main campus	1200 Sq.Ft
	DFRM PG Laboratory, Main campus	800 Sq.Ft
Aquatic Environment Management	DAEM UG Laboratory	1200 Sq.Ft
	DAEM PG Laboratory	1600 Sq.Ft
	Water and Soil testing lab	320 Sq.Ft

Fish Processing Technology	Microbiology laboratory, Main campus	320 Sq.Ft
	Fish Products Research and Quality Testing Laboratory, Main campus	150 Sq.Ft
	UG Laboratory, Main campus	800 Sq.Ft
Fishing technology and Fisheries Engineering	UG lab for Fishing Technology and Fisheries Engineering	300 Sq.Ft
	Navigation and Seamanship Laboratory	250 Sq.Ft
	Fishing craft laboratory	250 Sq.Ft
Fisheries Extension, Economics & Statistics	Computer Laboratory	1820 Sq.Ft
	Language Laboratory	700 Sq.Ft
Aquatic Animal Health Management	Microbiology Lab	144 Sq.Ft
	Molecular Biology lab	285 Sq.Ft
	Immunology Lab	142 Sq.Ft
	Cell culture Lab	130 Sq.Ft
State Referral Laboratory for Aquatic Animal Health, TNJFU-Madhavaram Campus	PCR lab	484 Sq.Ft
	Microbiology Lab	288 Sq.Ft
	Water and Soil Quality lab	680 Sq.Ft
	Instrumentation lab	288 Sq.Ft
	Cell culture Lab	320 Sq.Ft

INSTRUCTIONAL FARM

This college is having instructional farm and also outstation facilities including

- ARFF (Advanced Research Farm Facility) at Madhavaram with the total area of five Acres
- PRFF (Pulicat lake Research Farm Facility) at Pazhaverkadu with the total area of 0.75 Acres

A. ADVANCED RESEARCH FARM FACILITY, MADHAVARAM

- Outstanding facility of Dr. M.G.R. Fisheries College and Research Institute, Ponneri.
- Crowned with major advanced culture systems and technologies
- R & D activities in freshwater in major aquaculture species
- Central and State Govt. funding agencies projects are executed
- Strong institutional collaboration for product testing

THRUST AREAS

- Aquaponics- **Nutrient Film Technique (NFT)** and **DeepWater Culture (DWC)**.
- Cost effective feed formulations for brood stock (commercially important ornamental fish)
- Live food enrichment for larval rearing (edible fish/ egg layer ornamental fish)
- Shelf storage studies of preserved live foods for larval rearing
- Breeding and Propagation of edible loach
- Breeding and Propagation of murrel

- Standardising feed formulations for murrel and *Etroplus*
- Grow out of freshwater prawn (*M.rosenbergii*) in lined ponds
- Seaweeds as Immunostimulants- feed trials in GIFT

SPECIES CULTURED

- GIFT Tilapia (*Oreochromis niloticus*)
- Pangasius (*Pangasianodon hypophthalmus*)
- Catla (*Catla catla*)
- Rohu (*Labeo rohita*)
- Mrigal (*Cirrhinus mrigala*)
- Common Carp (*Cyprinus carpio*)
- Koi Carp (*Cyprinus carpio*)
- Pearl Spot (*Etroplus suratensis*)
- *Penaeus vannamei*
- Gold Fish
- Live bearers (Guppy, sword tail, Platy)
- Cichlids
- *Notopterus notopterus* (Bronze feather back)

NURSERY RACEWAY FACILITY

Heterotrophic based nursery raceways of fifty tonnes capacity are used for the nursery rearing of shrimps and tilapia fishes. The advantages are:

- High stocking density with maximum yield
- High bio secured facility
- Intensive systems with high tech aeration
- Easily manageable system
- Indigenously designed drainage



HDPE LINED POND FACILITY

Intensive nursery and grow out ponds of 18 Nos. have been developed to undertake research along with the industrial stakeholders.

- Central drainage accessed drainage facility
- Installed with different modules of surface aerators with bottom aeration
- Protected with bird & dog fencing structures

INCUBATION HUB

Seven ponds were allotted for incubation to the progressive shrimp and fish farmers and technology guidance is provided by TNJFU faculty. Remaining ponds are utilized for the student's research.



Student's Research ponds

AZOLLA CULTURE UNIT

Azolla is more environment friendly as it bind nitrogen directly from air. The azolla cultured here are used as feed for tilapia.



LIVE FEED CULTURE UNIT

To cater to the requirement of ornamental fish culture, live feeds such as Daphnia, Moina and copepods are being cultured in 24 FRP tanks of different capacity.



LAB FACILITIES AT ARFF

- a) Water & Soil quality testing lab
- b) Aquatic Microbiology lab
- c) Molecular PCR lab
- d) Histopathology lab



Water quality Lab



Molecular Lab



Microbiology Lab



WET LABORATORY I

Facility is utilized for carrying out research works for students. Facility contains indoor unit housing FRP tanks with the RAS facility.



Industrial Wet Laboratory

Facility is utilized for carrying out research works for students. Facility contains indoor unit housing FRP tanks with the RAS facility.



MULTISPECIES ORNAMENTAL FISH HATCHERY

Unit facilitated with breeding and rearing of native and exotic ornamental fishes in the FRP tanks and aquariums.



Outer view



FRP Tanks

AQUAPONICS UNIT

The aquaponics unit with an area of 500 m² was established at ARFF, Madhavaram with 20 Nos. of biofilter troughs each with 120 square feet area and 2 fish tanks with 30 ton capacity each. There are two water flow through pump for each biofilters troughs connecting fish tanks and the aeration is supplied for fish tanks by 1 HP mini air blower.



Aquaponics outer view



Aquaponics inner view

Horticultural crops like Tomato, Cucumber, Snake guard, Bitter gourd, Ladies finger, Broad beans and greens are reared in 20 Nos. of biofilter troughs in Aquaponics Unit, ARFF, Madhavaram along with GIFT Tilapia (in two tanks of 30 ton capacity) in RAS based system. Horticulture crops grown at the facility are being regularly sold.



Horticulture crops at Aquaponics unit



Tilapia culture pond at Aquaponics unit

Biofloc Photobioreactor Unit

The unit is demonstrative model for production of Biofloc using photo bioreactor. It consist of photo bioreactor unit and outdoor raceway for culture of biofloc.

	
Photobioreactor unit	Biofloc raceway tanks
	
Sea Bass culture tanks facilitated with the RAS	Sea bass filtration unit

TECHNOLOGIES DEVELOPED FOR DISSEMINATION:

1. Aquaponics Technology for the GIFT Tilapia culture has been developed
2. Culture of *Pangasianodon hypophthalmus* in lined ponds
3. Intensive nursery rearing of *P. vannamei* in indoor raceway system
4. Biofloc driven intensive nursery rearing technology for GIFT tilapia (*Oreochromis niloticus*)
5. Nursery technology for *Vannamei* in Raceways and Lined ponds under Biofloc culture
6. 'BIOINO'-an Inoculum for rapid development of Biofloc
7. 'BIOSAC'-a Polymeric substance extracted from biofloc culture systems
8. Replacement of fishmeal with Azolla meal in diet of GIFT Tilapia
9. Optimization of feeding frequency and stocking density of *P. vannamei* in RAS system
10. Developed Instant fish and shrimp soup cubes
11. Soap for domestic canine pet using fish oil
12. Developed a product called Mussel Cracker
13. Developed a product called Mussel Kure
14. Developed products like Fish wafer, prawn wafer and Seaweed wafer.
15. Bioremediation of distillery effluent using Biofloc technology
16. Breeding and Propagation of native ornamental fish species (*Dawkinsia rohani*, *D. filamentosa*, *Sahydriya denisonii*, *Danio dangila*, *Puntius sophore*, *P. conchoni*)
17. Mass Culture of Rotifers and Cladocerans in Indoor Systems

18. Mass culture of copepod, *Thermocyclops hyalinus* in Indoor Systems
19. Standardization of Breeding for commercially viable Cichlids (Jewel fish)
20. Breeding and Propagation of *Etroplus suratensis* in freshwater and brackishwater systems (Indoor and Outdoors)

OTHER INSTRUCTIONAL FACILITIES AT CAMPUS

- Fish and Shellfish Museum – 2200 Sq.Ft
- Net Braiding Hall - 600 Sq.Ft
- Gear and Craft Section - 400 Sq.Ft
- Post Harvest Research and Incubation Center (PHRIC) – [1000 Sq.Ft- equipment area/ 2300 Sq.Ft - Total]
- Solar Tunnel Drier – 430 Sq.Ft
- Fish Techno Park (FTP) – Seafood Knowledge Highway – 750 Sq.Ft
- Kayalagam – Model retail outlet for fish and fishery products – 500 Sq.Ft

IMPORTANT LABORATORY FCILITIES OF DR. M.G.R FC & RI, PONNERI



Fish Nutrition Lab



PCR Lab



Wet Lab



Seafood Chemistry and Biochemistry Lab



Fish Products Research and Quality Testing Lab



Water Quality Testing Laboratory



Algal Culture Unit



Molecular biology Laboratory



Wet lab

Fisheries Resource Management Lab



Histology Laboratory

Museum



Fishing Technology & Fisheries Engineering Lab

Fishing Technology & Fisheries Engineering Lab



Navigation laboratory



Mobile Soil & Water Quality Analysis Lab

FISH PROCESSING FACILITIES OF DR. M.G.R FC & RI, PONNERI



Post-Harvest Research and Incubation Center [PHRIC]



Inner view of PHRIC



Solar Tunnel Drier at Pulicat



Fish Techno Park

6.5.3.3. STUDENT READY/ IN-PLANT TRAINING / INTERNSHIP / EXPERIENTIAL LEARNING PROGRAMMES

EXPERIENTIAL LEARNING PROGRAMMES

Students register for ELP during the seventh semester for 20 credits, ELP in Aqua farming (0+10) and ELP in Fish Post Harvest Technology (0+10) are being offered. Evaluation is done after the completion of 105 working days as per the evaluation criteria suggested by ICAR.

IN- PLANT TRAINING

To enrich the practical knowledge of the students, in-plant training is mandatory in the last semester. In this training, students will have to study a problem in industrial perspective and submit the reports. Such in-plant trainings will provide an industrial exposure to the students as well as to develop their career in the high tech industrial requirements. In-Plant training is meant to correlate theory and actual practices in the industries. It is expected that sense of running an industry may be articulated in right way through this type of industrial attachment mode.

The In-Plant Training (IPT) provides a unique opportunity for the students to work with the fishermen, fisherwomen, fish farmers, entrepreneurs and NGOs in their farms and homes and get exposure to the commonly felt and unfelt problems and needs of the fisher folk. With sound basic background, this practical field experience equips the students fully with desired professional skills and enabling them to serve the fishing and fish farming communities.

The students will be helped and guided by the subject matter specialist (Teaching, Research and Extension Staff) of the University assigned for the purpose of implementing the programme. Duration of the IPT is one semester (110 – days) during the eighth semester of Fourth year B.F.Sc. degree programme.

PROGRAMME OF WORK

The In- Plant Training (IPT) (0+20) for the final B.F.Sc, is offered with the following programmes.

Spilt up details of the programme

a) Registration & Orientation Programme	: 1 day
b) Aqua industry including farm Hatcheries, Ornamental fish culture units, Feed mill	: 80 days
c) Seafood Processing Plants	: 25 days
d) Presentation of the In- Plant Training Programme	: 2 days
e) Written Examination	: 1 day
f) Viva – Voce	: 1 day
Total	: 110 Days

i) Aquaculture Industries experience (80 days)

The students shall involve in the day to day activities in the freshwater composite/ornamental fish farms, gather information from their host fish farmers and shall maintain the record of daily work done. The students shall become familiar with the aspects like pond preparation, fertilization, stocking, aeration, feeding water exchange and sampling. The water quality management, feeding schedule, fertilization schedule etc. will be recorded. The disease encountered will be studied both in the field and laboratory and remedies will be suggested.

The students will be exposed to the fish/shrimp hatchery management techniques involving themselves in various operations from brooders collection, their maintenance, spawning and hatching. The students will get practical experience on food and feeding, culture of algae, artemia cyst hatching, water quality, prophylactic and therapeutic treatments for both the brood stock and young ones and economics of the hatchery.

ii) Fish processing industries experience (25 days)

The student will undergo the training programme for 25 days in fish processing plants to gain knowledge about the functions of fish processing plants including cold storage. The students would be involved in actual day- to - day operations (raw material procurement, weighing, cleaning, processing, freezing, packing, etc.) along with the processing plant workers. Besides, information on quality control, preparation of value added fishery products, their storage and distribution shall be collected and analysed.

iii) Examination / evaluation

At the end of the IPT programme, the evaluation will be conducted to analyse the performance of the students. Evaluation includes written test, Presentation of IPT and Viva – Voce.

ELIGIBILITY

The students who have successfully completed all the course works in the seven semesters of the B.F.Sc. programme are eligible to register for IPT programme. The registration for IPT should be done on the first day of the IPT programme. The Students should not delay the registration at any cost. The orientation would on the first day of the IPT programme commencement

ATTENDANCE

The programme will be conducted in all days (including Sundays) excluding Government Holidays. The attendance requirements for the programme shall be 95%.

PROGRAMME MONITORING

IPT programme will be monitored by the IPT in-charge and monitoring team which consists of various staff of the Department of Fisheries Extension assigned to guide the students for the whole duration of IPT programme.

EVALUATION

Every student shall be evaluated individually by an assessment /evaluation committee based on the submission of records, presentation of IPT Programme performance in the written test and viva-voce. Every student has to prepare the records in his/her own hand writing based on the daily field observation note books maintained by them. The students should not use printed or typed material in the preparation of in plant training records. The records shall contain a certificate as given in the Annexure. Marks distribution for In-Plant training is as follows:

- | | |
|--|-----------|
| 1) Written test | :30 marks |
| 2) Presentation of the in-plant training | :30 marks |
| 3) Record/Report of the programmes | :20 marks |
| 4) Work diary | :10 marks |
| 5) Viva –Voce | :10 marks |

Total :100 marks

The evaluation will be conducted on the last two working days of the programme.

No ELP unit sanctioned by the ICAR is available for the college.

6.5.3.4.CURRICULA DELIVERY THROUGH IT ICT (SMART CLASS ROOMS/INTERACTIVE BOARD ETC.)

The college is having six SMART classrooms with a seating capacity of 65 students each at a time and monitored by CCTV cameras. Of which, four classrooms for U.G. students, one classroom for P.G. students, one classroom for Ph.D students. Each classroom of 910 sq. feet area is available in the college campus. The college classrooms are well equipped with audiovisual aids and regular lectures are delivered through power point presentations. Educational videos, short films, etc., to convey concept with clarity Smart board.



SMART Student Classroom

6.5.4.STUDENT DEVELOPMENT

6.5.4.1.STUDENT INTAKE AND ATTRITION

The information about student intake and attrition, for the College UG Students for last five years is given below.

Name of the Degree	Actual student admitted in last five years							Attrition (%)						
	Y-1 (20 14- 15)	Y-2 (20 15- 16)	Y-3 (20 16- 17)	Y-4 (20 17- 18)	Y-5 (20 18- 19)	Y-6 (20 19- 20)	Y-7 (20 20- 21)	Y-1 (20 14- 15)	Y-2 (20 15- 16)	Y-3 (20 16- 17)	Y-4 (2017 -18)	Y-5 (20 18- 19)	Y-6 (2019 -20)	Y-7 (20 20- 21)
B.F.Sc.	20	42	59	63	64	68	45	-	0.02 (1 No)	-	0.08 (5 Nos)	-	0.06 (4 nos)	-

6.5.4.2.AVERAGE NUMBER OF STUDENTS IN THEORY AND PRACTICAL CLASSES

UG – B.F.Sc

Name of Degree Programme	Batch of students in theory class	Batch of students in practical class
B. F. Sc.	One batch of 60 students in theory class	two batch of 30 students in practical class

PG - M.F.Sc

Sl. No.	Name of the department	Batch of students in theory class	Batch of students in practical class
1	Aquaculture	One batch of four students in theory class	One batch of four students in practical class
2	Aquatic Animal Health Management	One batch of two students in theory class	One batch of two students in practical class
3	Fish Processing Technology	One batch of two students in theory class	One batch of two students in practical class
4	Fisheries Resource Management	One batch of two students in theory class	One batch of two students in practical class
5	Aquatic Environment Management	One batch of two students in theory class	One batch of two students in practical class

Ph.D

Sl. No.	Name of the department	Batch of students in theory class	Batch of students in practical class
1.	Aquaculture	One batch of four students in theory class	One batch of four students in practical class
2.	Aquatic Animal Health Management	One batch of one student in theory class	One batch of one student in practical class

3.	Fish Processing Technology	One batch of one student in theory class	One batch of one student in practical class
4.	Fisheries Resource Management	One batch of one student in theory class	One batch of one student in practical class
5.	Aquatic Environment Management	One batch of one student in theory class	One batch of one student in practical class

6.5.4.3. ADMISSION PROCESS

Dr.M.G.R. Fisheries College and Research Institute is a constituent college of Tamil Nadu. Dr.J Jayalalithaa Fisheries University and the admission process is adopted by the University

SYSTEM OF EDUCATION

Semester course credit system is followed. An enrolled student should complete the course and research credits prescribed from time to time and shall have to earn a minimum Overall Grade Point Average (OGPA) of 6.5 out of 10.0 in order to earn a Post Graduate (M.F.Sc. / Ph.D.) degree.

6.5.4.4. CONDUCT OF PRACTICAL AND HANDS ON TRAINING

Theory and practical schedules: At the commencement of a semester, the theory and practical schedules should be drawn for a course by the course teacher and concerned head of the department and circulated the students with a copy to the Dean. The instruction should be strictly adhered according to the schedule. The Head of the department / Dean shall ensure that the schedule is adhered to and alternate arrangements are made to cover up the loss in case of any eventualities of unavoidable reasons that lead to non-adherence of the above schedule.

Practical class: Number of practical classes conducted by the course teacher from the first working day (i.e. the second day of registration week, unless otherwise specified) as per the time table, to the final practical class. The practical examination shall be conducted on the final practical class of the concerned course in a semester.

The faculty strives to conduct the regular practical for each course as per the course curriculum laid down by ICAR. In addition, field exposure is provided through field visits to institutes, industries, hatcheries, farm ponds, lake, river and reservoirs, etc., located in and around the Tamil Nadu, specifically to ensure the curriculum fulfilment and regional fisheries and aquaculture needs. Study tours are regularly conducted to provide practical exposure to the students in the coastal areas as the college is geographically located in an inland area. Practicals are conducted in batches in order to provide more exposure to individual student following the 'learning by doing' principle. Further, as per

requirement of the course, the laboratory facilities available at the college are utilised to conduct the practicals.

The college and its constituent centres are having a laboratories and fish ponds where the students get hands-on-training experience. The students are involved in brood stock development, induced breeding of Pearl Spot, Gift Tilapia, Cat fish, etc, nursery rearing, fingerling production, soil and water quality management, feed formulation, manufacturing of farm made feed, feed management, insect eradication, etc. Likewise in the post-harvest technology module the students get hands-on-training experience by carrying out fish market survey, fish drying, fish de-scaling, fish meat separation, fish filleting, etc on their own. The quality control aspects like biochemical and microbial examinations are carried out in the respective laboratory. Value added fish products (Fish/ Prawn/Crab Cake, Fish/ Prawn/Crab kure, Marine protein bread, dry fish, Smoked fish, Seafood energy Bar, fish balls, fish cutlet, fish burger, fish bajji, fish pizza, fish pickle, Fish curry in retort pouch etc) are prepared by the students in PHRIC.

Further the students also undergo In-plant Training on shrimp farming, carp farming and Tilapia farming at corporate farms in Tamil Nadu and Andhra Pradesh coastal stretches and renowned fish processing industries in Tuticorin, Mandapam and Vizag where they receive the skills and training on the latest technologies in fish farming and fish processing.

6.5.4.5.EXAMINATION AND EVALUATION PROCESS

UG

Courses with Theory and Practical: Out of 150 marks for a course, the internal theory and internal practical shall be conducted for 20 marks and 50 marks separately and evaluation done by the course teacher. The final external theory examination shall be conducted for 80 marks and evaluation done by the external examiner.

Students absenting from class by prior arrangement on official University business shall be given due consideration and may be permitted by the Faculty Dean concerned to take up supplementary examination that are missed, at the discretion of the Dean concerned, provided the student satisfies the minimum requirement of attendance and pays an additional examination fee of Rs. 200/- (Rupees two hundred only) for each examination. Such supplementary examination shall be completed before 100 working days. Answer papers pertaining to examinations for internal theory shall be returned to the students within 7 working days after the conduct of the examination. The students shall have the option to request the teacher for clarification of any doubts in evaluations, provided such request is made immediately after the answer papers are distributed. This, however, shall not apply for the final external theory examination. The final external theory examinations shall be conducted by the

University with two hours of duration. For setting question paper and evaluation, the concerned faculty Dean shall identify and recommend the external experts and send it to the Controller of Examinations in confidential letter. There shall be no arrear examination in between final external theory examinations.

Practical (50 marks): Conducted by the course teacher at the end of the semester preferably in the final practical class of the respective course. Out of 50 marks, 10 marks shall be allotted for practical records 35 marks for doing laboratory practical / and another 5 marks for viva – voce. The marks obtained for 150 (theory 100 + Practical 50) shall be converted to 100 for the purpose of calculation of the grade point.

Course with theory alone: The maximum marks is 100 out of which 20 marks shall be allotted for internal theory examination and calculation of the grade point.

Course with practical alone: Conducted by the course teacher at the end of the semester preferably in the final practical class of the respective courses. Out of 50 marks, 10 marks shall be allotted for practical records; 35 marks for doing laboratory practical / and another 5 marks for viva – voce. The examinations for courses with practical only shall be conducted for 50 marks and converted to 100 marks and converted to 100 marks for the purpose of calculation of the grade point. Students who miss the final external theory examination shall be awarded “F” (FAIL). A minimum of 50% in theory and practical separately with an aggregate of 50% shall be essential to get a pass in a subject.

Students who miss the internal theory examination shall be permitted to take the final external theory examination provided they are eligible otherwise. However, they will lose the maximum of 20 marks meant for internal theory examination. There shall be no supplementary examination under any circumstances for final external theory examination. Students who were awarded ‘F’ shall take the examination in the subsequent semesters. No University examinations shall be conducted in between during semester weeks. The marks obtained under internal theory examination shall be taken as such for the second and subsequent attempts. The marks statement for the courses showing internal theory examination, internal practical examination and attendance particulars shall be sent to the Controller of Examinations before the completion of final external theory examinations.

PG AND Ph.D

EXAMINATION AND EVALUATION

The detailed guidelines for the conduct of examination (internal and final), comprehensive Qualifying Examination, research credit evaluation, grading, recording, preparation of mark lists, transcripts etc. circulated from time to time by the University shall be followed. The schedule of

examinations shall be consisting of internal and final examination in a semester for course work and for research and seminar credits, the final evaluation will be done at the end of the semester concerned.

Internal theory Examination: The internal theory examination would invariable be conducted on completion of 70th working day of the semester. The internal theory examinations shall be conducted by the respective course teachers as per the time table given by the Faculty Dean and guidelines issued by the University from time to time. It may be conducted only for theory for duration of 45 minutes for a total mark of 20 consisting of questions of objective pattern for 10 marks and questions of subjective pattern for 10 marks. There shall not be any preparatory holiday for internal examination. The portions for the examination shall cover the topics completed from 1st working day to till the date of examination.

Internal practical Examination: The practical examination shall be conducted by the curse teacher. For courses with theory and practical credits, the duration of internal practical examinations shall be three hours. The internal practical examination will be conducted before the final theory examination. The practical examination shall be conducted for 50 marks.

Final theory external Examination: It shall be a University examination comprising of theory conducted at the end of a semester. The theory examination shall be for 70 marks. The question paper for theory examination shall be set by the external examiners. However, the answer scripts of the courses shall be evaluated by the staff in the concerned department appointed by the Controller of Examinations internally.

The question type shall include A. Define (5 out of 6) for 10 marks, B. Short notes (3 out of 4) for 15 Marks C. Essay type (3 out of 4) for 45 marks. The duration of the examination is two hours.

Question paper setting: The question paper shall be obtained from one external expert from the panel list of five experts given by the Head of the department, External expert shall provide two sets of question paper specifically mentioning the Unit number and the line from which the question was taken in the syllabus. Of the two sets of question setter while preparing the question paper.

- (a) **Term paper:** A term paper may be given for each course by the course teacher and it may be evaluated for a maximum of ten marks. (10)
- (b) **Distribution of marks for calculation of grade point of a course:** The distribution of marks for calculation of grade point of a course is as follows.

Course with theory and practical

Examinations	Marks
Internal theory	20
Final external theory	70
Practical Examination – 30 Record – 10 Viva voce - 10	50
Term paper	10
Total	150

Course with theory alone

Examinations	Marks
Internal theory	20
Final external theory	70
Term paper	10
Total	100

Course with practical alone

Examinations	Marks
Internal theory	30
Record	10
Viva voce	10
Total	50

The examinations for courses with practical only shall be conducted for 50 marks and converted to 100 marks in the marks statement.

Comprehensive Qualifying Examination (CQE): This is a mandatory examination to be taken up by all M.F.Sc., and Ph.D. students after completion of 90 working days of the second semester. The students should not be permitted to register for more than five research credits before successful completion of CQE. The details of conduct of CQE, evaluation details and method of conduct of viva-voce shall be as per the guidelines issued by the University from time to time. The question paper for CQE for M.F.Sc., and Ph.D., programmes shall be set by the external examiner. The evaluation of answer books and conduct of viva- voce shall be done by the Advisory Committee. The results for CQE shall be graded as satisfactory / unsatisfactory. The qualifying mark for “satisfactory” shall be 60%. In case of unsatisfactory performance, the student has to reappear for the CQE after three months and such case, the student has to reappear for the CQE after three months and such re-appearances are restricted to two. In total, the appearances are restricted to three. In such case, the student has to reappear for the qualifying examination on payment of Rs. 500/- (Rupees five hundred only) per appearance.

Evaluation of M.F.Sc., / Ph.D. seminars: The M.F.Sc., /Ph.D. seminar (s) is / are mandatory for all PG students with a credit load of 1+0 and 2+0 for M.F.Sc., and Ph.D. students, respectively. The

advisory committee should assign the seminar paper after carefully reviewing the literatures and such other materials. The advisory committee shall evaluate the performance of the seminar credits registered by the students at the end of semester. The evaluation should be conducted during the last fortnight of the semester when all the members of the Advisory Committee are available. Normally the students are not expected to absent themselves for seminar credit evaluation. Under extraordinary circumstances a late evaluation within ten working day of the semester may be permitted by the Faculty Dean of the college concerned on payment of a fine of Rs. 200/- (Rupees two hundred only). In circumstances, where a member of the Advisory Committee may not be available necessary permission has to be obtained for conduct of evaluation in the absence of one member from the Faculty Dean of the College concerned. If more than one member may not be available, permission has to be obtained from the University. In circumstances where the Chairman is not available for evaluation, late evaluation may be permitted by the faculty Dean within ten working days from the last working day. In extraordinary circumstances where the chairman may not be available even within this period, the head of department can act as Chairman after obtaining permission from the Faculty Dean of the College concerned. In the event of HOD acting as Chairman and not available within this period, the Faculty Dean / nominee of the Faculty Dean can act as Chairman and conduct evaluation. The performance of the student be evaluated by the Advisory Committee as per the following norms.

Particulars	Marks
Coverage of literature	40
Presentation	30
Use of AV aids	10
Capacity to participate in the discussion	20
Total	100

A time schedule regarding the conduct of seminar has to be prepared by the Chairman and the same has to be communicated to the respective individuals and Advisory Committee well in advance. In case of failure, the students have to re- register the credit in the subsequent semester.

Evaluation of research credit: The performance of the research credit registered by the students during the semester shall be evaluated by the Advisory Committee at the end conducted by all members of the Advisory Committee can give an evaluation statement “Satisfactory / NonSatisfactory” mentioning lack of requirements like attendance/ adherence to the programme / satisfactory progress, etc. to proceed to next semester. Research credits will not be included for OGPA calculation.

In the final semester in which the student is submitting the thesis, evaluation of the research credits by the Advisory Committee and submission of thesis by the student may be done on a convenient day

during last week of semester in which all members are present on completion of mandatory attendance limit of 80% and 100% completion of work committed to do at the beginning of the semester by the student. Final research semester will be evaluated as “Satisfactory / Not Satisfactory”. In case of “Not Satisfactory”, a grade of “Incomplete” shall be awarded and the student has to re-register for the same credit load of research again in the subsequent semester. The student has to get the permission of Faculty Dean of the College concerned for re-registration of incomplete research credits. In case of re-registration of same credit load of research after second time, the matter may be referred to the Deans’ committee and the University. Normally the students are not expected to absent themselves for research credit evaluation. Under extraordinary circumstances a late evaluation within ten working days from the last working day of the semester including final semester in which student is submitting thesis may be permitted by the Faculty Dean of the College concerned on payment of a fine of Rs. 200/- (Rupees two hundred only). However, it is the prerogative of the Faculty Dean to decide whether, the circumstances for late evaluation stated by the student really warrants it. In case of willful absence, the Advisory Committee, in consultation with Faculty Dean of the College concerned, may award incomplete grade. Normally all members of the Advisory Committee should present themselves for evaluation of research credit. Under extraordinary circumstances in which a member of the Advisory Committee may not be available, necessary permission has to be obtained for conduct of evaluation in the absence of one member from the faculty Dean of the College concerned. If more than one member may not be available, permission has to be obtained from the University. In circumstances where the chairman is not available for evaluation, a late evaluation may be permitted by the Faculty Dean within ten working days from the last working day. In extraordinary circumstances where the Chairman may not be available even within this period, the head of department can act as chairman may not be available even within this period, the head of department can act as Chairman and conduct evaluation. If a student has not got mandatory attendance limit of 80%, a grade of incomplete may be awarded and the student has to re-register for the same credit load of research again in the subsequent semester. The student has to get the permission of Faculty Dean of the College concerned for re-registration of incomplete research credits. In case of re-registration of same credit load of research after second time, the matter may be referred to the Dean’s committee and University.

Final viva –voce examination: On the basis of recommendation for acceptance of thesis, the University shall forward the reports of the external examiner to the Chairman of the Advisory Committee for conducting final viva-voce examination for the postgraduate students. The thesis shall be sent to one external examiner for M.F.Sc., degree and two external examiners for Ph.D. Programmes. The final viva – voce shall be conducted by the External Examiner along with the Advisory Committee for M.F.Sc., Programmes, whereas for Ph.D. Programmes, the final viva-voce

shall be conducted by one of the External Examiners decided by the University along with the Advisory Committee. The details and method of conduct of final viva –voce shall be as per the guidelines issued by the Faculty Dean and University from time to time. The date for final viva-voce should be fixed by the Chairman taking into account the availability of all members of the Advisory Committee after verifying the fact regarding carrying out corrections and suggestions specified by the external examiners. Normally all the members of the advisory Committee should be present for final viva-voce. In case of extraordinary circumstances where a single member may not be available, necessary permission has to be obtained from the Faculty Dean of the College concerned. If more than one member may not be available the final viva-voce examination has to be postponed.

6.5.4.6. NCC/NSS/RVC UNITS

The Department of Youth Affairs and Sports in the Ministry of Human Resources Development, Government of India, sponsors the National Service Scheme Programme. This college is having a functional National Social Service (NSS) unit started in 2017-18. The students admitted to the college are enrolled for NSS. NSS activities comprises of two heads viz., Regular NSS activities and NSS special campaign programme. The various programmes such as blood donation, tree plantation, prevention of AIDS and Dengue, adult education, pulse polio campaign, Swachh Bharat Abhiyan, etc. are organized as regular activities. Every year special camps for 7-10 days are organized in selected villages, enriching students with the experience of the social works, social living and leadership etc. The intake capacity of NSS volunteers is 60 students. As a step to introduce the concept of responsibility, discipline and self-sufficiency, the College organizes the NSS activities. Students voluntarily register and participate in the training, camps organized from time to time. NSS helps the students to grow individually and also as a group making them confident, develop leadership skills, and gain knowledge about society. NSS is helping students' societal discipline and in organizing societal activities for the benefit of people.

NSS activities at Kottaikuppam Panchayat, Pazhaverkaadu from 24 -30th July 2017

The NSS special camp for the third year B.F.Sc students was inaugurated on 24th July 2017 in the presence of Dr. Cheryl Antony, Dean i/c, Dr.S.Balasundari, Students' Coordinator, Father Allwin, Mr.Kalaiahasan, NSS Officer, Mr.P.Velmurugan and Dr. Surulivel, NSS Programme co-officers. The camp lasted for 7 days and the students were involved in activities such as Village cleaning, Demonstrations to the school students and village people namely Aquarium tank fabrication; Feed preparation; Fish manure and Sillage preparation; Induced breeding of *Etroplus*; Fish cutlet preparation, Socio-economic survey and tree plantation at Senjimanagar. Dr.APJAbdul Kalam was remembered during his second death anniversary and the students and villagers paid homage. As part

of the NSS, Eye camp and Veterinary camp were also held for the benefit of the villagers. The NSS special camp was concluded with Fisheries Awareness program and cultural events.

“CLEANLINESS OF INDIA” programme held at Dr. MGR FC&RI, Ponneri on 20.09.2017

THE “CLEANLINESS OF INDIA” Programme was conducted in the campus of FC&RI, Ponneri on 20.09.2017 to create awareness and the importance of the cleaning programme among the faculties, students and casual labours. All the students, Teaching and Non-teaching faculties and Casual labours were participated in the programme. They were involved in activities such as cleaning of inside and outside of the campus of Dr. MGR FC&RI, Ponneri.

“To Prevent Dengue Fever” programme held at FC&RI, Ponneri on 13.10.2017

To prevent the infection of dengue, nilavembu water distribution event was organized by health club and NSS in the campus on 13.10.2017. The Dean, FC&RI, Ponneri by delivering the drinks to students and it was also distributed to the teaching staff, non-teaching staff, and casual labours.

Dr. MGR FC & RI, Ponneri participated in “RIDLEY RUN’ 18 – Run for Turtle” Marathon

The “RIDLEY RUN’18 – Run for Turtle” Marathon event was conducted at the Palavakkam beach on 04.02.2018 by an NGO. The event was scheduled in the early morning 5.00 to 7.30 am. The event created awareness about the importance of the “Run for Turtle” among the participated public, industry people, college students and school children. Two staff members and 40 students of Dr. MGR FC&RI, Ponneri participated in the event. The total number of participants for the event was around 3000. All participants were involved in activities such as marathon for 1 km for children, 3 km for ladies and 5 km for men in the Palavakkam beach, Chennai.

Swachh Bharat summer Internship programme held on 30.06.2018 at FC&RI, Ponneri

The “Swachh Bharat summer Internship” Programme was conducted in the campus of FC&RI, Ponneri on 30.06.2018 at 7.00 am to 9.30 am. All the students and casual labours of the institute participated in the programme. The event concentrated in cleaning both the inside and outside premises of the campus.

Students of Dr. M.G.R. FC&RI, Ponneri conducted NSS special camp (07 -13th August 2018) at Devempattu village

The NSS special camp for the third year B.F.Sc students was inaugurated on 07th August 2018 in the presence of Dr. Cheryl Antony, Students Coordinator, Mr. Ravi, Ornamental farmer, Mr. M. Kalaiarasan, NSS Programme Officer, Mr. P. Velmurugan, Asst. Professor. The camp lasted for 7 days and the students were involved in the following activities:

(a) First day: Students distributed eye camp bit notices in and around the Devampattu village

(b) Second day: Veterinary camp was conducted in the village. Two veterinary doctors were assisted by students. Villagers brought around 200 ruminants (cows, buffaloes and goats) for vaccination.

(c) Third day: Tree plantation program was conducted by the students and encouraged the villagers to plant (150 no. of trees) at various places in the village. The village people also worked enthusiastically along with students and helped in planting trees.

(d) Fourth day: Cleaning program was undertaken and cleared off the plastics from the surroundings and made it clean, creating awareness among villagers to reduce the usage of plastics and improve the usage of dustbins.

(e) Fifth day: Swachh Bharat awareness program was conducted.

(f) Sixth day: Socio-economic survey related to ornamental fish farming was done in and around the village.

(g) Seventh/final day: Eye camp assisted by Dr. Agarwal eye clinic, Chennai was conducted for the benefit of village people.

Dr.M.G.R FC & RI, Ponneri participated in INTERNATIONAL COASTAL CLEANUP 2018

International Coastal Cleanup 2018-19 program was organized by Lions Club at Marina beach, Chennai on 15.09.2018 at 6:00 am. More than 300 students from different colleges in and around Chennai guided by Assistant Professors, NSS & NCC Staff of the respective colleges participated in the event. As a part of NSS activity, B.F.Sc. first year students led by Mr. P. Velmurugan, Asst. Professor, DAEM of Dr. M.G.R. Fisheries College and Research Institute, Ponneri also participated in the event. The beach was found filled with all type of garbages such as broken bottles, sharp metallic objects, sticks, cigarette butts, remains of food stuffs, paper and food packets. The beach cleaning started from the light house area and continued upto 2 kms. The dry wastes were collected separately as organic and inorganic and all the collected waste was given to Chennai Corporation for further recycling process and its proper disposal. The active beach cleaning program came to an end at 9:00 am. At the end all the student participants and volunteers were felicitated by the organizer.

Prevention of Dengue Fever event held at Dr.M.G.R. FC&RI, Ponneri on 16.11.2018

The “Distribution of Nilavembu water” event was organized by NSS in the campus on 16.11.2018. The Dean of the institute ‘Dr.B.Ahilan’ inaugurated the event and delivering the drinks to students and also it was distributed to the teaching staff, non-teaching staff, casual labours.

Campus Cleaning conducted at Dr.M.G.R. FC&RI, Ponneri on 02.12.2018

As an early measure to prevent the outbreak of Dengue fever in the campus premises, NSS unit under the guidance of Dr. B. Ahilan, Dean of the institute conducted a campus cleaning programme on 02.12.2018. All the students of the institute actively participated in the programme. Since the programme concentrated more in removing weed plants present in the campus, the students were given prior advice on safety measures from reptiles and about segregating both organic and inorganic matter from the collected wastes. The cleaning programme also ensured removal of stagnant water in small pits, which will ensure the arrest of breeding of dengue mosquitoes. The programme began sharply at 7 am and lasted till noon of the day.

Sapling Plantation programme conducted at Dr.M.G.R. FC&RI, Ponneri on 23.01.2019

The NSS unit of Dr.M.G.R. Fisheries College and Research Institute, Ponneri and Nethaji Tree Bank, Ponneri jointly organized the tree sapling plantation programme on 23.01.2019 at Dr.M.G.R. FC&RI campus premises in commemoration of **Nethaji Subhas Chandra Bose birth** anniversary. Dr. S. Balasundari, Professor and Head, Department of Fish Processing Technology presided over the function and Mr.Paulraj, Inspector of Police, Ponneri, inaugurated the function by planting a tree sapling. Representative from Nethaji Social organization and Nethaji Tree Bank, Ponneri and public volunteers participated in the programme. The NSS unit of the institute actively participated in the programme.

Voters Awareness Campaign on EVM and VVPAR conducted at Dr. M.G.R. FC & RI, Ponneri on 26.02.2019

As an initiative to create awareness about Electronic Voting Machines (EVM) and Voter verifiable paper audit trail (VVPAT) among the young voters, the District Administration of Thiruvallur conducted Voters awareness campaign at Dr. M.G.R. Fisheries College and Research Institute on 26.02.2019. **Tmt. Mageswari Ravikumar, I.A.S.,** District Collector, Thiruvallur inaugurated the awareness campaign in the presence of Dr. B. Ahilan, Dean of the institute. The District Collector interacted with students and faculty of the institute and emphasised the responsibility of the citizens especially the young voters in enrolling themselves in the voters list as it plays prime role in voting during the elections. A team of experts from District Election Commission displayed the Electronic Voting Machine (EVM) and explained the units of EVM and their functions. Students and Faculties of the institute were also exposed to voting procedures.

Students of Dr. M.G.R. FC&RI, Ponneri conducted NSS special camp (06 -10th September 2019) at Periyamangodu village

The NSS special camp for the third year B.F.Sc students was inaugurated on 06th September 2019 in the presence of Dr. Manikandavelu, Dean, i/c, Mrs.Vijaya Lakshmi, Sub Inspector of fisheries, Mr.Pradhap, President, Fishermen cooperative society, Mr. R. Velmurugan, NSS Programme Officer, Mr. P. Velmurugan, Asst. Professor. The camp lasted for 5 days and the students were involved in the following activities:

- (a) First day: Students interacted with peoples distributed eye camp bit notices in and around the Periyamangodu village. NSS special camp inaugurated.
- (b) Second day: Veterinary camp was conducted in the village. Two veterinary doctors were assisted by student's volunteers. Villagers brought around 300 ruminants (cows, buffaloes and goats) for vaccination.
- (c) Third day: Tree plantation program was conducted by the students and encouraged the villagers to plant (100 no. of trees) at various places in the village. The village people also worked enthusiastically along with students and helped in planting trees.
- (d) Fourth day: Eye camp assisted by Dr. Agarwal eye clinic, Chennai was conducted for the benefit of village people. About 8 peoples were selected and send for free cataract operation and about 42 to peoples were provided with spectacles on freebasis with sponsorship of the students volunteers. Total of 120 public were benefitted by the eye camp.
- (e) Fifth day: Cleaning program was undertaken in public assembling places of the village and cleared off the plastics from the surroundings and made it clean, creating awareness among villagers to reduce the usage of plastics and improve the usage of dustbins.

Blood Donation Camp conducted at Dr. M.G.R FC&RI, Ponneri on 23.07.2019

The NSS unit of Dr.M.G.R Fisheries College and Research Institute, Ponneri and health department jointly organised blood donation Camp on 23.07.2019 at the institute's main campus. The camp was inaugurated by Dr. B. Ahilan, Dean of the institute in the presence of teaching staffs and students of the institute. A medical team headed by Dr. K. Tamilselvi, District Blood Transfusion Officer and Dr. M. Vivek balamithran, Assistant Surgeon guided the blood donation camp. A total of 51 donors comprising 48 students and 3 non-teaching staffs of the institute donated their blood in the

camp. Mr. R. Velmurugan, NSS programme officer and Mr. G.S.Keerthivarman, NSS Student Secretary coordinated all the arrangements for the event.

Dr. M.G.R FC&RI, Ponneri Participated Coastal Clean-up programme on 21.09.2019 at Besent Nagar beach, Chennai.

The NSS Volunteer unit of Dr.M.G.R Fisheries College and Research Institute, Ponneri participated in coastal clean-up programme on 21.09.2019 at Besent Nagar beach organised by Ministry of Tourism, Government of India on commemoration of “International Coastal Clean-up Day”. The event was scheduled in the early morning 6.00 to 9.00 am. The event Coordinator inaugurated the event and created awareness about the importance of the Plastic Pollution among the participated public, industry people, college students and school children’s. The NSS Programme Officer and 65 students of Dr.MGR. FC & RI, Ponneri participated in the event. The total number of participants for the event was around 3000. All participants were involved in activities such as collecting litter and plastic wastes in beach and coastal waters. The collected litter were handed over to the organiser for the proper disposal. Mr. R. Velmurugan, Assistant Professor & NSS programme officer coordinated all the arrangements for the event.

Prevention of Dengue Fever – Distribution of “Nilavembu Water” held at Dr.MGR.FC& RI, Ponneri on 25.10.2019

To prevent the infection of dengue Nilavembu water distribution event was organized by NSS unit of Dr.MGR.FCRI, Ponneri on 25.10.2019 at 11.00 am. The Dean, Dr.MGR.FC&RI, ponneri distributed the Nilavembu drinks to students, teaching staff, non-teaching staff and casual labours of institute and created awareness among the students about the importance of Nilavembu extract in preventing Dengue Fever.

Dr. M.G.R Fisheries College and Research Institute, Ponneri celebrated World Fisheries Day on 21.11.19

NSS unit of Dr. M.G.R Fisheries College and Research Institute and the State Fisheries Department, Ponneri have jointly organised the World Fisheries Day on 21.11.19. The students rally themed “Fisheries Resources Conservation” was inaugurated and lead by the Dean i/c, Dr. D. Manikandavelu along with the faculties. Students were actively participated in the rally to impart the awareness to the general public. Essay writing and elocution competitions were conducted on

the themes of “Contributions from fisheries for combating the climate change” and “Development strategies for Fisheries-2025”, respectively to the students. Chief-guest, Mr. N. Pancharaja, Assistant Director of Fisheries, Thiruvallur District has delivered chief-guest address and distributed the prizes to event winners. Dr. D. Manikandavelu, Dean i/c presided over the function. NSS officer and Assistant Professor, Mr. R. Velmurugan, organized the programme.

Campus Cleaning Conducted at Dr.M.G.R. FC&RI, Ponneri on 16.02.2020

Under the guidance of Dr. B. Ahilan, Dean, Dr.MGR, FCRI, Ponneri, the NSS unit of the institute conducted a Campus cleaning programme on 16.02.2020 to create a habit of keeping our surroundings clean. All the students of the institute actively participated in the programme. In the cleaning programme students collected the bio-degradable and non-degradable waste from the college campus. More than 100 students participated in the event. The collected waste was packed in gunny bags and properly disposed. The programme began sharply at 7 am and lasted till noon of the day.

Campus cleaning programme conducted at Dr. M.G.R. FC&RI, Ponneri on 03.03.2021

To ensure the safety and cleanness of the campus and Hostel premises, NSS unit under the guidance of Dr. B. Ahilan, Dean of the institute conducted a campus cleaning programme on 03.03.2021 at 04 to 06. All the students of the institute actively participated in the programme. Since the programme concentrated more in removing weed plants present in the campus, the students were given prior advice on safety measures about reptiles and about segregating both organic and inorganic matter from the collected wastes. For safety purpose, all the students were given with gloves. The cleaning programme also ensured removal of plastic wastes present in the entire campus. The collected wastes were segregated into degradable and non-degradable wastes. Then all the wastes were kept in one place and the municipality workers came and took away all the wastes from the campus. The warden and deputy wardens of the hostels were monitoring the cleaning works at hostel premises.

Dr. M.G.R Fisheries College and Research Institute, Ponneri & Department of Fisheries, Thiruvallur District jointly organized “SVEEP” on 26.03.2021 at Pulicat

NSS unit of Dr. M.G.R Fisheries College and Research Institute, Ponneri and the State Fisheries Department, have jointly organized the “**Systematic Voters’ Education and Electoral Participation Program [SVEEP]**” on 26.03.2021 at Pulicat. The SVEEP was organized as a students’ rally themed ‘100 % voting by the public in upcoming election’ on 06.03.2021. The rally was inaugurated and lead

by the Dean, Dr. B. Ahilan and Mr. Ajay Anand, Assistant Director Fisheries, Thiruvallur District along with the fishermen representatives of Pulicat. Final year students of Dr.MGR FCRI, Ponneri with all the COVID-19 precautions [wearing mask and using sanitizer] actively participated in the rally to impart the awareness to the general public about responsibilities of the Indian Citizens in voting. The awareness rally started from Pulicat Bus stand and ended at the Pulicat Fish Landing Center. At the end of the programme, voting awareness balloons were released by Mr. Ajay Anand, Assistant Director Fisheries.

6.5.4.7. LANGUAGE LABORATORY

The medium of instruction for the Bachelor of Fishery Science (B.F.Sc) degree programme is English. The students coming from rural areas face a little difficulty in understanding the English language. The Language laboratory unit is established in the computer lab where the multimedia resources like softcopy books, & CD's are installed in computers. Further books for the development of English language have been purchased and kept in the college library. Special coaching in English is also given for the weak students by the faculty.



6.5.4.8. Cultural Centre

A hall with 150 seating capacity with multiple digital display screens and projector is available in the campus and being utilized as a cultural center to develop positive interaction among students.



6.5.4.9.PERSONALITY DEVELOPMENT

Training is being regularly organized for the students on Personality Development and the trainers from renowned HRD organizations. Frequent Guest Lectures are also being delivered by HR experts, popular personalities from different walks of life, fisheries industrialists and alumni.

HRD WORKSHOP CONDUCTED

“Create Your Destiny” workshop was conducted on 18th March 2017 by Mrs. Radha, MART SERIES, Bangalore.

Following were taught:

- Goal setting
- Time management
- Listening
- Communication
- Mind power practices
- Power of subconscious mind
- Making gratitude as attitude
- Creative Visualisation

In addition to it, 365 days whatsapp based motivational classes were also conducted by Mrs. Radha, SMART SERIES, Bangalore. The programme began by 1st December, 2017



6.5.5.PHYSICAL FACILITIES

6.5.5.1.HOSTELS

Both boys' hostel & Girls hostel are located within the premises of Dr. M.G.R. Fisheries College and Research Institute (FC&RI), Ponneri. In Both the hostels, UG and PG students are accommodated separately. A hostel secretary assisted by hostel representatives from each year in both the hostels maintain the respective hostel premises under the direct supervision of the hostel administration.

ACCOMMODATION

During the period under report, the hostels provided accommodation for 228 students comprising of 122 boy and 106 girl students pursuing undergraduate and postgraduate programmes.

A common mess is functioning for both boys and girls based on 'Dividing system'. A Mess Secretary assisted by mess representatives from each year in both the hostels maintain the mess under the direct supervision of the hostel administration.

ADMINISTRATION

The Hostel of Dr. M.G.R. Fisheries College and Research Institute is administered by one Warden and two Deputy Wardens, including one lady deputy warden. One Superintendent assists the hostel administration.

WELFARE

The Hostel Amenity Committee meets regularly in order to review the hostel accounts and mess rates and recommend necessary measures for the efficient and economical functioning of students' mess. Every year Hostel day is celebrated for the student's welfare to promote integrity, harmony and sportsmanship among the students. The hostel day in the reporting period was celebrated on 3rd February 2020 with cultural programmes and fun games, and winners were awarded prizes. The hard work of the hostel office staff and mess staff was duly recognized with mementoes by the students to acknowledge their work.

Newspapers and periodicals (Weekly and monthly) are made available in the hostel campus for both the boys' and girls' inmates. Magazines provided in the reading room help the hostel inmates to prepare for the civil service, ICAR and various other National and International competitive examinations.

Separate TVs have been provided to both hostels for watching the TV programmes. Each hostel has been provided with one washing machine. One R.O plant (500 lit per hour) has been installed in the common mess for drinking water purpose. Steps have been taken for providing adequate uninterrupted water supplies to the boys and girls hostels. Badminton courts have been made available inside the hostel premises of both boys' and girls' hostels.

BOYS' HOSTEL

During 2020 - 21, 122 boys (UG & PG) were accommodated in the hostel. Besides students from Tamil Nadu, a student from kerala and one from Andaman stayed in this hostel.

GIRL'S HOSTEL

During 2020 – 21, 106 Girl students (UG &PG) were accommodated in this hostel. Besides students from Tamil Nadu, one from Andhra Pradesh, two students from Orissa, one from Andaman and two from Uttarakand stayed in this hostel

Mosquito repellent was periodically sprayed in and around both the hostels. A visiting doctor has been arranged to take care of health of hostel inmates. Doctor visits two times in a week. A proposal for separate hostel block for PG has been submitted to NABARD for funding support.



STUDENTS' HOSTEL – Dr. MGR FCRI, Ponneri

6.5.5.2.Examination hall:A single examination hall of 3128 sq. feet area is available in the college campus, accommodating 100 students at a time and monitored by eight CCTV cameras.



6.5.5.3.SPORTS AND RECREATION FACILITIES

Indoor games like table tennis, carrom, chess and Shuttle court facilities are available for boys and girls students in the college. The outdoor games like volleyball and basketball are available in the college campus. The students of this college regularly participate in regional, state and national level sports events. The college also organises the inter class sports events to build up team spirit and sportsmanship among the students. The students of this college regularly practicing and participate in regional, state and national level sports events. The college also organizes the inter batch sports events to build up team spirit and sportsmanship among the students during the sports day and Hostel day occasions.

INFRASTRUCTURE FACILITIES:



COLLEGE GROUND



BASKETBALL COURT



VOLLEYBALL COURT



FUTSAL COURT



LONG JUMP PIT



KABADI GROUND



THROW BALL COURT

EVENT ORGANIZED AND PARTICIPATED

- On behalf of TNJFU, The Dr. M.G.R Fisheries College and Research Institute, Ponneri and FCRI, Thoothukudi, organized University player selection meet and pre-coaching camp for all university players during 22nd - 28th January, 2018 at FC&RI, Thoothukudi, to participate in the 18th all India Inter Agri sports meet 2017-18.



Volley ball practice session



Warm up session of the players

16 students from The Dr. M.G.R Fisheries College and Research Institute, Ponneri had participated in University player selection meet for athlete (men and women) and volleyball (men) during 22nd - 28th January, 2018. Edwin (2nd year B.F.Sc), K. Kavinesan (3rd year B.F.Sc), Satheesh (4th year B.F.Sc), M. Vignesh, M. Ajithkumar, K. Venkatesh, R. Gowri Monohari were qualified to participate in the all India Inter Agricultural Sports and Games Meet at Bengaluru.

- On behalf of TNJFU, Dr. M.G.R.FCRI, Ponneri, has made all the necessary arrangements for the participants in the 18th all India Agri-sports Meet 2017-18, hosted by the University of Agricultural Science, GKVK during 30th January to 3rd February, 2018 at Bengaluru. TNJFU had participated in events like Volleyball and Athletics with a total contingent of 29 participants in the meet including seven students from Dr. M.G.R FCRI, Ponneri.



- Ten athletes of our college students (5 Boys & 5 Girls) participated in 'Mini Marathon' on the 144th Birth Anniversary of Sardar Vallabhbhai Patel on 31.10.2019 held at TNJFU Nagapattinam

- During the academic year 2019-20, 22 players (15 Boys & 7 Girls) of our college games and sports team was participated in University players' selection meet of TNJFU held at FC&RI, Thoothukudi during 30.01.2020 to 31.01.2020. Out of these 22 participants 11 (9 Boys & 2 Girls) students has selected by TNJFU University players' selection committee for National AIAU Sports & Games meet' 2019-2020.
- On behalf our TNJFU 11 players was performed in various sports and games in National AIAU Sports & Games meet' 2019-2020 held at SVVU, Tirupati on 01 March to 05 March 2020.



March past at All India Agri Sports Meet



Girls players playing volley at AIAS



Boys Players playing volley at AIAS

STUDENTS ACHIEVEMENT IN EXTERNAL COMPETITION

- Student of Dr. M.G.R FC & RI, Ponneri Mr. T. Harikaran (1st year B.F.Sc.), (2017-18 Batch), bagged third position in the 27th Tamil Nadu State Cadet & Junior Judo Championship 2017-18, held at Uthangarai, Krishnagiri district, Tamil Nadu held during 2nd - 4th November, 2017.
- Student of Dr. M.G.R FC & RI, Ponneri, Ms. R. Hinduja, (3rd year B.F.Sc.), bagged second position (silver medal) in the event of IVth Rural Games Federation Cup (Boxing) 2017-18, 18 (Open National Level) held at Anna stadium, Cuddalore, Tamil Nadu during 19th - 21st January, 2018. The Institute's Dean, Dr. B. Ahilan, Sports Officer, Mr. P. Velmurugan along with all the Staff Members and Students of the Institute congratulated the students for their remarkable achievement.



Ms. R. Hinduja, 3rd B.F.Sc.,



Mr. T. Harikaran, 1st B.F.Sc.,

- Thiru. R. Balaji, final year B.F.Sc., student of Dr. M.G.R. Fisheries College and Research Institute, Ponneri bagged First Price in the State level “Tamil Nadu Biceps Lifting Championship bold Competition” (60 kg category) and Second Price in “Narendramodi Classic Body Building Championship bold Competition” (60 kg category) conducted by the Idappadi Sri Maruthi Power Gym at Salem on 15, March 2020.



- Student of Dr. M.G.R FC & RI, Ponneri Mr. D. Navin Kumar (1st year B.F.Sc.), (2020-21 Batch), participated in the event in FIRST SQAY NATIONAL CHAMPIONSHIP 2021 organised by SQAY Association of Rajasthan under the ageis of SQAY Federation of India recognized by Ministry of Sports and Youth affair, Government of India in the name of Sqauy Martial Art during 25-28 February 2021also he bagged FIRST position [GOLD MEDAL] in KAWANKEY event and THIRD position [BRONZE MEDAL] in LOBA (fight). The Institute’s Dean, Dr. B. Ahilan, Sports Officer, Mr. P.PavinKumar and Coordinator (2020-2021 batch) Dr.N. Muralidharan along with all the Staff Members and Students of the Institute congratulated the student for his remarkable achievement.



ANNUAL SPORTS DAY CELEBRATION

The Fourth Sports Day of the Dr. M.G.R Fisheries College and Research Institute, Ponneri was celebrated on 27th June, 2018. The day began with Sports and the Inaugural Ceremony began at 9:00 am in the college ground where Dr. B. Ahilan, Dean, of the institute and the Chief Guest of the sports inauguration ceremony took salute of the march past contingents of students. To enliven the sports event, the Olympic Torch was taken up by the athletes, followed by oath taking by the students. The sports meet was declared open by the Chief Guest by lighting the torch as well as flying off Pigeon and balloons into the azure sky. About 14 sports events (Indoor-5; Outdoor-9) were conducted and more than 100 students actively participated in the track and field events with true spirit of sportsmanship. Friendly sports events were also conducted between faculty and students.



March past



Olympic torch



100 mtr. event (Women)



Volleyball final

6.5.5.4.AUDITORIUM

Auditorium is not available in the campus. A multipurpose hall is available with a capacity to accommodate 200 persons. At present this hall is being used for all college functions.

6.5.5.5.EXHIBITION HALL/MUSEUM

The Department of Fisheries Resource Management is maintaining a Fisheries Museum with an area of 2200 sq. ft. in which about 300 finfish and shellfish specimens and shells of 400 species of gastropods and bivalves are in display.

The details are furnished below

Sl.No.	Particulars	Qty (Nos.)	Remarks
FINFISH MUSEUM			
1.	College Museum	1	2200 sq. ft. area
2.	Specimens display rack	11	Specimens display
3.	Finfish specimens	300	Preserved in jars
4.	Chart display boards	24	Wall mounted
SHELLFISH MUSEUM			
1	Specimens display wooden rack	4	Galleries
2	Acrylic L Stand - 12 x 6 for shell fish display	100	Bivalves; Gastropods
3	Gastropod – Gallery A – 6ftx4ft	84 varieties	400 nos.
	Gastropod – Gallery A – 6ftx4ft	90 varieties	400 nos.
4	Bivalve – Gallery A – 6ftx4ft	82 varieties	400 nos.
5	Bivalve – Gallery B – 6ftx4ft	113 varieties	400 nos.



6.5.6.RESEARCH FACILITIES

6.5.6.1. POSTGRADUATE LABORATORIES AND EQUIPMENTS

DEPARTMENT OF AQUACULTURE

The Off- campus farm facilities functioning under Department of Aquaculture

A. ADVANCED RESEARCH FARM FACILITY (ARFF), MADHAVARAM

FACILITIES ESTABLISHED

1. Multispecies Ornamental fish hatchery
2. Nursery Raceway Complex- 4 nos. of 50 tonnes capacity for *L. vannamei* and GIFT rearing.
3. Lined ponds -21 Nos. for grow out rearing of Chitralada, GIFT and red tilapia strains, red bellied Pacu, Pangasius & Koi carp.
4. Class room
5. Aquaculture biotechnology laboratory encompassing water and soil quality laboratory and aquatic microbiology laboratory
6. Small scale ornamental fish breeding unit
7. LRTs for Live feed production and Larval rearing
8. Aquaponics Research Complex

B. AQUATIC RAINBOW TECHNOLOGY PARK (ARTP), MADHAVARAM

1. **Hatchery System (Multi species Ornamental Fish Hatchery):** This facility consists of 10 mini hatchery units with all the facilities including RAS system to breed ornamental fishes. Each unit has 20 FRP and 10 glass tanks of the following dimensions with central drainage system.
 - a) 80L= 10 nos. (Glass tank)
 - b) 600 L = 09 Nos
 - c) 1000 L = 11 Nos
2. **Nursery System (Heterotrophic based Indoor Raceways):** This facility houses 10 Raceway units attached to RAS system. Each unit comprises of two tanks with each tank capacity of 6 x 2 x 1.15 m (13 ton capacity) with air lift pumps operated by blowers (2HP) which ensure a running water system and zero water exchange.



Indoor raceway



Indoor Nursery raceway system

3. Grow-out System (Heterotrophic based Outdoor Raceways): This facility houses 08 Raceway units with RAS system. Each unit comprises of four tanks with each tank capacity of 12 x 2 x 1.15 m (27 ton capacity) with air lift pumps operated by blowers (3HP) which ensure a running water system and zero water exchange.



Indoor Raceway with RAS facility

4. Live Feed culture section: Live feed culture facility incorporates a number of small tanks (32 nos.) of all sizes to grow Rotifers, Cyclops, Moina and all other such live feed species. Adequate lighting, filtered water and continuous aeration are provided. Size of this building is 208 m². This is maintained by TNJFU and produced live feed is selling to the farmers in and around the facility on unit cost basis.



Live feed unit

Live feed culture tanks

5. Administrative Building cum Laboratory: It consists of two floors of 300 m² each. The ground floor has a set of laboratories includes Water Quality Laboratory, Fish Microbiology, Fish Pathology laboratory and training hall for the research and development on various aspects. First floor is the administrative office to control ARTP and conference hall.



Fish Biotechnology Lab



Microbiology Lab

EQUIPMENTS IN WATER QUALITY LABORATORY

1. Spectrophotometer
2. Refractometer
3. TDS meter
4. pH meter
5. Top pan balance
6. Chemical balance
7. Thermometer
8. Titration units (including pipettes, biurets, flasks, beakers etc.)

EQUIPMENTS IN MICROBIOLOGY LABORATORY

1. Refrigerator (-20⁰C)
2. Hot air oven
3. BOD Incubator
4. Horizontal Laminar Flow
5. Trinocular Microscope
6. Stereozoom Microscope
7. Shaker
8. Hot plate
9. Water Bath



Fish Pathology Lab



Water Quality Lab

EQUIPMENTS IN FISH PATHOLOGY LABORATORY

1. Autoclave
2. BOD vertical incubator
3. Refrigerator (4⁰C)
4. Centrifuge
5. pH meter
6. Hot plate stirrer

7. Water double distillation unit
8. Orbital shaker
9. Vacuum pump set

C. PULICAT RESEARCH FIELD FACILITY, PAZHAVERKADU

Pulicat Research Field Facility (PRFF), Pulicat an Off campus facility of Tamil Nadu Dr.M.G.R. Fisheries College and Research Institute, Ponneri was inaugurated on 2nd January 2015 realizing the importance of Pulicat Lake which is bestowed with enormous potential for brackish water species and in order to cater the needs of fisherfolk and self-help groups in and around Pulicat lake. It is spread within an area of 0.75 acres and major research and developmental works are being operated at this centre. Many P.G and Ph.D scholars are doing their research works in the relevant areas from this centre. This centre has many advanced culture system facilities such as RAS and lined ponds for the intensive stocking and rearing of brackish water species. The major thrust areas of this centre are induced breeding of Pearl spot in large scale using lined ponds, RAS and cage based pearl spot culture and Larval rearing of pearl spot in indoor and outdoor hatcheries.



1. SOIL & WATER QUALITY LAB:

The Soil water quality lab was established in an area of 32 square meters and equipped with following equipments:

1. BOD incubator
2. Deep freezer
3. Hot air oven
4. Muffle furnace
5. UV spectrophotometer
6. Distillation Unit
7. Digital pH meter
8. Weighing balance
9. Refractometer

10. Soil pH meter
11. Stabilizer
12. DO meter with accessories
13. Multiparameter Water analysis kit with Recording facilities
14. Refrigerator



2.MICROBIOLOGY LAB:

The Microbiology Lab was established in an area of 19.32 square meters and equipped with following equipments:

1. Biological incubator
2. Laminar flow chamber
3. Hot air oven
4. Hot plate
5. Microscope
6. Magnetic stirrer
7. Precision balance
8. Centrifuge
9. Orbital shaker
10. Vaccum pump
11. Air conditioner
12. Serological Water bath
13. Micropipettes
14. Vortex mixture



3.OUTDOOR HATCHERY:

A green shade housing facility with an area of 90 m² (6 x 15.5 m) was constructed in PRFF,Pazhaverkadu campus to accommodate 20 nos. of FRP tanks with aeration facility (3HP blower). The details of FRP tanks are as given below:

- 2.4 ton capacity – 12 Nos.
- 0.6 ton –8 nos.



4. INDOOR HATCHERY:

The indoor hatchery is equipped with following facilities

- 12 Nos. of 300 lit capacity FRP tanks with central drain facility with temperature and photo period control
- Two 4T capacity was used for breeding experiment.
- 24 nos. of glass tanks- first quality (90L) with aeration facility was also established for conducting feed trials



5. LINED PONDS

Three numbers of lined ponds were constructed with central drainage facility. Two of the ponds with dimension of 8x10 m and one pond with dimension of 22.4x10 m were constructed in PRFF Pazhaverkadu for conducting mass production of pearl spot.



6. RAS (RECIRCULATING AQUACULTURE SYSTEM)

Eight numbers of 1T FRP tank was provided with two numbers of biofilters (capacity of 300 grams of feed) with two numbers of 0.5 HP flow pump for RAS system.



7. MODERNIZED TREATMENT SYSTEM FOR TREATING SOURCE WATER

For treatment of water used for experiments the following facilities were established

- 5T tank – 1 No
- 10T tank – 1No
- Sand filter (10000 lit/ hour) – 2No.
- Cartridge filter – 6No.
- Dosage system – 2 Units
- 1 HP water pump
- 3 HP water pump
- 0.5 HP air blower



8. HDPE CAGES

A battery of 6 numbers of floating cage (HDPE) each having a volume of 18 m³ (3x3x2m) were erected in Pulicat lake with anchor facility, bird's net and handrails.



All these centres are having very good infrastructure facilities for the purpose of teaching and research. About 60% of the teaching is being done through practical and hands- on training utilizing the lab facilities available in the department. Group research problems are also being given to the UG students in order to train them on the lab techniques Field visits to fish landing centres, fish markets, museums, research institutes are being arranged regularly based on the course. Hands on demonstration are given using laboratory equipment, navigation equipment and seamanship appliances for both theory and practical classes. Central (ICAR institutes like ICAR-CIBA, ICAR-CMFRI etc.,) and State Government Institutional visits for students are also organized for getting practical exposure. Field visits to net mending yard, Boat building yard, fishing harbour, landing centre, and fishing villages are also being organized with students for gaining practical knowledge. Industrial visits to Fish processing plant and Ice making plant are also organized with students for gaining practical knowledge in processing sector. Sea trips are arranged for hands on demonstration in the operation of trawl net, gill net, trammel net, long line and cast net. Group exercises are being given to the students to fabricate the fishing nets such as trawl net, gill net, trammel net, long line and cast net in the practical classes. Further, in the final year of UG degree programme, the students also undergo in-plant training on aquacultural activities and renowned fish processing industries wherein they receive the skills and training on the latest technologies in fish/shrimp farming and fish/shrimp processing.

FACILITIES IN PG LAB

Equipments available
1. Venturi Aspiration system
2. Microscopic camera
3. Trinocular microscope
4. ERMA Refractometer
5. Digital hot air oven
6. Digital Autoclave
7. Laminar flow chamber
8. Incubator
9. Water bath
10. Magnetic stirrer
11. Orbital shaker
12. Centrifuge
13. Electronic balance
14. HB microscope
15. Binocular Microscope
16. Vortex mixture
17. Membrane filter
18. Colony counter
19. Spectrophotometer
20. Systronic water analyser
21. Muffle furnace
22. Flame photometer
23. Digital pH meter
24. Water distillation unit

DEPARTMENT OF AQUATIC ANIMAL HEALTH MANAGEMENT

Sl. No	Name of the Lab	Equipments / facilities available
1.	UG Laboratory	Facilities for teaching through conventional methods and ICT tools
    Molecular biology Laboratory		
2.	Molecular biology laboratory	The lab houses advanced equipments for molecular diagnosis of diseases. The following equipments are available in the lab • PCR Thermal cycler • Real-time PCR Thermal cycler • Spectrophotometer • Deep freezers • Refrigerated centrifuge • Gel documentation unit • UV Trans illuminator • Agarose gel electrophoresis
3.	Immunology Lab	1. Fermentor 2. ELISA Reader 3. Freeze Dryer
4.	Cell culture Lab	Co₂ Incubator Laminar Air Flow Chamber Ultrasonic Processor

5.	water quality analysis Lab	Spectrophotometer Distillation Unit Ice Flaker
 Water quality laboratory		
6.	Histology Lab	Microscope
7.	Wet lab- Fish rearing and challenge study facility	Wet lab is provided with aquarium and aeration system to carry out the fish rearing and pathogen challenge studies. The laboratory is being used for the demonstration of the sample collection from fish, dissection, conduct of trials in fish models for the research projects and students research work
  Histology Laboratory Wet lab		
8.	Microbiology laboratory	This laboratory is housed with the equipments required for the demonstration during classes and for the conduct of the research for the students. The equipments available in the lab include, • Incubator • Digital pH meter • Serological water bath • Autoclave • Orbital shaker • Vortex mixer • Laminar air flow chamber • Microwave oven • Hot air plate • Hot air oven • Muffle furnace • Microscopes



STATE REFERRAL LABORATORY FOR AQUATIC ANIMAL HEALTH (YEAR OF ESTABLISHMENT- 2014-15)

- State of art facility for the diagnosis of diseases in aquatic organisms was established
- The lab extends diagnostic support and extension services to the aquafarmers (About 4800 samples have been screened for diseases so far)
- Developed 5 technologies (diagnostic assays) for the rapid detection of commercially important viruses

DEPARTMENT OF FISH PROCESSING TECHNOLOGY

A. POST-HARVEST RESEARCH AND INCUBATION CENTER (PHRIC) [year of establishment - 2016] with Food Safety and Standards Authority of India(FSSAI) registration.

Developed 24 ready to eat and ready to cook value added fish products in the institutional brand name “Pulicat Omega” with FSSAI certification. Products such as Fish Biscuit, Prawn Biscuit, Seaweed Biscuit, Azolla Biscuit, Fish Briyani in retortable pouch, Prawn Briyani in retortable pouch, Fish curry and steamed rice in retortable pouch, Fish Kure – Extruded Fish Snack, Prawn Kure - Extruded Prawn Snack, Seaweed Kure - Extruded Seaweed Snack, Marine protein bread, Prawn Cake, Crab Cake, Seaweed Cake, Seafood energy bar, Barbequed Fish, Barbequed Prawn, Barbequed Fish Briyani in retortable pouch, Barbequed Prawn Briyani in retortable pouch, Seaweed soup, Seaweed wafers, Seaweed chips, Seaweed Tea and Seaweed salt are developed, standardised and evaluated.

B. FISH TECHNO PARK (FTP) [year of establishment - 2016] with Food Safety and Standards Authority of India (FSSAI) registration. FTP is the Seafood restaurant for the developing fish products and other fish based food items.



C. KAYALAGAM [year of establishment - 2017]

The retail outlet for the value added ready to eat and ready to cook fish products.



D. SOLAR TUNNEL DRIER [year of establishment - 2018]

The unit for hygienic production of dry fishes. Established in PPP mode at Pulicat.



E. LAB AND OTHER FACILITIES AVAILABLE IN DFPT

S. No.	Name of the unit	Equipments/Facilities
1.	Seafood Chemistry and Biochemistry Lab	Seafood chemistry and biochemistry testing laboratory is functioning under Department of Fish Processing Technology at 320 square feet area. The under graduate laboratory of Department of Fish Processing Technology is equipped with all the equipments for conducting practical classes for the B.F.Sc students. The total laboratory space is 800 square feet. The laboratory is having 10 Nos. of lab tables and 40 lab stools. Beside

		the laboratory is having the following equipments: • Rotary Flash Evaporator • Gel Electrophoresis Unit • Protein Analyser (Kel Plus) • Fat Analyser (Socs Plus) • Fibre Analyser (Fibra Plus) • Moisture Analyser (Hot Air Oven) • Ash Analyser (Muffle furnace) • Deep Freezer • Centrifuge • Over Head Stirrer • pH Meter • Refrigerator • Weighing Balance • Magnetic stirrer • Water Bath • Shaking Incubator • Homogenizer • Heating Mantle • Hot Plate
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Seafood Chemistry and Biochemistry Lab

2.	Fish Products Research and Quality Testing Lab	Fish Products Research and Quality Testing llaboratory is having an area of 150 sq.m meter and is equipped with the following equipments: • Gas chromatography – ECD & FID detector • Double block gradient PCR • Gel documentation system • HPLC with UV & RF detector • UV-Visible spectrophotometer • Solvent filtration unit • Sonicator • Rotary evaporator • Bomb Calorimeter • Refrigerator
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Fish Products Research and Quality Testing Lab

3.	Post Harvest Research and Incubation Centre	The Post-Harvest Research and Incubation Centre being developed in 1000 sq.f area. The following are the equipment available in the laboratory • Water Spray Retort • Steam Cooking System • Twin – Screw Extruder • Portable Solar Drying Unit • Flake Ice Machine • Grill Oven • Pasta Maker • Pulveriser • Baking Oven • Micro Wave Oven • Smoking Kiln • Hot Air Cabinet Drier • Batch Coder • Solar Drier • Heat Band Sealer • High Pressure Sealing Machine • Foot Operated Sealing Machine • Bottle Sealing Machine • Tray Packing Machine • Vacuum Packaging Machine • Automatic Pickle Packing Machine • Carton Strapping Machine • Can Seamer • Cold Store (-18 °C) • Chill Room (4 °C) • Refrigeration Unit • Deep Freezer • Pre-Processing Unit • Processing Unit • Large scale Weighing Balance • RO Plant
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		• Fish meat separator • Nitrogen flushing machine • Double side can seamer • Ohmic heater • Small scale weighing machine • Manual batch printing machine • 3 HP compressor unit
 Post-Harvest Research and Incubation Centre		

DEPARTMENT OF FISHERIES RESOURCE MANAGEMENT

UG Laboratory – 1

1. Dissection Microscope – 2
2. Compound Microscope – 2
3. Trinocular Microscope – 1
4. Distillation unit
5. Refractometer – 1
6. Thermometer – 2
7. Digital pH Meter – 1
8. Deep Freezer – 1
9. Fridge – 1
10. FRP Trays – 50
11. Hot Water Bath
12. Microtome
13. Tissue Floatation Bath
14. Heating mantle
15. Portable Electronic Balance
16. Mini Centrifuge
17. Gel Electrophoresis Unit
18. Computer system installed with Software: Primer V7 (Biodiversity and stock assessment software)



UG Laboratory



PG- Laboratory

Museum

The Department of Fisheries Resource Management is maintaining a Fisheries Museum with an area of 2200 sq. ft. in which about 300 finfish and shellfish specimens and shells of 400 species of gastropods and bivalves are in display. The details are furnished below

Sl.No.	Particulars	Qty (Nos.)	Remarks
FINFISH MUSEUM			
1.	College Museum	1	2200 sq. ft. area
2.	Specimens display rack	11	Specimens display
3.	Finfish specimens	300	Preserved in jars
4.	Chart display boards	24	Wall mounted
SHELLFISH MUSEUM			
1	Specimens display wooden rack	4	Galleries
2	Acrylic L Stand - 12 x 6 for shell fish display	100	Bivalves; Gastropods
3	Gastropod – Gallery A – 6ftx4ft	84 varieties	400 nos.
	Gastropod – Gallery A – 6ftx4ft	90 varieties	400 nos.
4	Bivalve – Gallery A – 6ftx4ft	82 varieties	400 nos.
5	Bivalve – Gallery B – 6ftx4ft	113 varieties	400 nos.



DEPARTMENT OF AQUATIC ENVIRONMENT MANAGEMENT

The department has following facilities for PG research

Sl. No	Name of the Lab	Equipments / facilities available
1.	UG Laboratory	The under graduate laboratory of Department of Aquatic Environment Management is equipped with all the equipments for conducting practical classes for the B.F.Sc students. The total laboratory space is 800 square feet. The laboratory is having 7 Nos. of lab tables and 40 lab stools. The lists of strains maintained at algal culture facility are ○ Spirulina ○ Chlorella ○ Scenedesmus ○ Chroococcus
		
Water Quality Testing Laboratory		Algal Culture Unit

2.	Water Quality Testing Laboratory	Water quality testing laboratory is functioning under Department of Aquatic Environment Management at 320 square feet area. This laboratory consists of the equipments such as pH meter, Spectrophotometer, electronic weighing balance. The main function of this laboratory is to analyse the commercial water and soil samples received from aquaculture farmer's fields on cost basis. Advisory services will be given to farmers, based on the results. The minimum package for analysing pH, Alkalinity, salinity, ammonia and hardness of one water sample is Rs. 150/- . Apart from this, other water and soil quality parameters such as calcium, magnesium, potassium, nitrite, nitrate, phosphate, available nutrients, water holding capacity etc. are analysed on charge basis. The list of equipments available in Aquaculture Water Quality Testing Laboratory are 1. Spectrophotometer 2. pH meter 3. EC meter 4. Water bath 5. Heating mantle 6. Hot air Oven 7. Binocular Microscope 8. Distillation unit
3.	PG Laboratory	1. UV –Vis Spectrophotometer 2. Flame photometer 3. Automatic weather station (mini unit) 4. BOD incubator 5. Digital microscope 6. ORP meter 7. TDS meter 8. Algal culture unit 9. Water bath 10. Hot plate 11. Multiparameter analyser 12. Anemometer 13. Barometer 14. Psychrometer 15. Water sampler 16. Sediment sampler



Flame Photometer- UG Lab



PG Laboratory

DEPARTMENT OF FISHING TECHNOLOGY AND FISHERIES ENGINEERING

Sl.No	Name of the Lab	Equipments / facilities available
1	Fishing Craft Lab	I. Fishing craft models 1. Trawler 2. Gillnetter 3. Purse Seiner 4. Long Liner 5. Squid Jigger 6. Gujarat Wahan 7. Dugout Canoe 8. Rampani Boat 9. Plank Built Boat 10. Catamaran 11. Boat Catamaran 12. Coracle 13. Tuticorin Boat 14. Boat Canoe 15. Masula Boat 16. Bar Boat 17. Flat Bottom Boat 18. Bombay machwa 
2.	Navigation and Seamanship Lab	1. Life Jacket 2. Life Buoy 3. Globe 4. Navigational Flags 5. Navigational Lights 6. Navigational Charts 7. Navigational Day Shapes 8. Chart Reading Tools 9. Magnetic Compass 10. Marine Sextant 11. Azimuth Mirror 12. GPS 13. Echo Sounder 14. Chart Reading Tools



Fishing Technology & Fisheries Engineering Lab

3.	Fishing Gear Lab	Fishing Gear Models 1. Trawl Net 2. Gill Net 3. Long Line 4. Traps/Pots 5. Trammel Net 6. Shore Seine 7. Cast Net 8. Traditional Gears 9. Different types of Knots 10. Different types of Splices 
4.	Fishing Gear Mending Hall	1. Net Braiding Stand (3 Nos.)

DEPARTMENT OF FISHERIES EXTENSION, ECONOMICS AND STATISTICS

The department has the following facilities of the institute to achieve its Objectives.

- To serve as an interface between farmers and the institute.
- To serve as single window service delivery center for the public.
- To create database on the aquaculture and fisheries profile of Northern districts of Tamil Nadu

The centre serves as effective platform in educating the department's UG courses especially to understand the lab to land gap.

(a) COMPUTER LAB:



Thirty five numbers of desktop computers for providing hands-on training to the students especially during the practical hours of Information and Communication Technology (FS-118) Course.

6.5.6.2.RESEARCH CONTINGENCY

There is no separate allotment of research contingency for each department. The expenditure is met out from the institutional recurring contingency.

PROJECTS OPERATED/IN OPERATION at Dr. MGR FC & RI, PONNERI (2013-2018)

Sl. No	Project Title	Funding Agency	Budget Rs. lakhs	Date of start	Date of completion	Principal Investigator
COMPLETED PROJECTS						
1	Establishment of Aquatic Rainbow Technology Park (ARTP)	TANII- Govt. of Tamil Nadu	1038.10	26.11.15	26.11.18	Dr.S.Felix Former Vice Chancellor
2	Establishment of National Aquatic Rainbow Mall at Madhavaram	NADP	250.00	24.11.17	23.11.19	Dr.S.Felix Former Vice Chancellor
3	Developing of Bio floc Technology for sustainable shrimp Farming	DBT	46.47	20.09.16	19.09.19	Dr.S.Felix Former Vice Chancellor
4	Establishment of Demonstration Units on Recirculatory Aquaculture systems for doubling the vannamei shrimp culture	NFDB, Hyderabad	24.08	12.09.18	31.03.20	Dr.B. Ahilan Dean Dr.M.G.R. FC&RI,Ponneri

5	Establishment of Technology demonstration unit of Azolla as Feed supplement to GIFT Tilapia at Advanced Research Farm Facility, Madhavaram, TNJFU Campus, Tamil Nadu	NFDB, Hyderabad	3.01	10.07.18	31.03.20	T.L.S. Samuel Moses Assistant Professor Department of Aquaculture Dr.M.G.R. FC&RI, Ponneri
6	Effect of supplementing prototypes (immunomodulators) on the growth performance and immune responses of <i>Litopenaeus vannamei</i>	M/s.Kemin Industries Pvt Ltd	3.03	04.07.19	04.01.20	Dr.B. Ahilan Dean Dr.M.G.R. FC&RI, Ponneri
7	Effect of a 'Lysophospholipid-based nutrient absorption enhancer' in improving the performance of <i>Penaeus vannamei</i>	M/s.Kemin Industries Pvt Ltd	4.74	04.07.19	29.04.20	Dr.B. Ahilan Dean Dr.M.G.R. FC&RI
8	Evaluation of the effects of Phytase Supplementation on Growth and feed Utilization in Nile Tilapia	M/s.BASF Pvt Ltd	5.49	06.08.19	13.05.20	Dr.B. Ahilan Dean Dr.M.G.R. FC&RI Ponneri
9	Growth plus and Lipto Fry as Functional Feed Supplement for the Improved Growth Performance of <i>Penaeus vannamei</i>	M/s.Liptosa Pvt Ltd	6.43	03.10.19	20.05.20	Dr.M.Menaga Assistant Professor Department of Aquaculture Dr.M.G.R. FC&RI, Ponneri
10	Determination of the efficacy of Activo Liquid and BgMOS in comparison to a competitive product in improving performance parameters in Shrimp	M/s.Ew Nutrition Pvt Ltd	7.07	04.12.19	07.08.20	Dr.M. Menaga Assistant Professor Department of Aquaculture Dr.M.G.R. FC&RI, Ponneri
11	"Kayalagam" – The Future Store for amplification of marketing of diversified	NADP	250.00	01.10.18	31.03.21	Mrs. Nimish Mol Stephen, Assistant Professor,

	fish products in Tamil Nadu					Department of Fish Processing Technology, Dr.M.G.R. FC&RI, Ponneri.
12	Upscaling of biofloc production technology for developing eco feed for vannamei shrimp culture	NFDB, Hyderabad	50.00	14.09.18	13.09.20	Dr.B. Ahilan Dean Dr.M.G.R. FC&RI Ponneri
ONGOING						
13	Establishment of Recirculatory Seabass Aquaculture Technology Park for doubling the income with low water budgeting	RKVY-NADP	350.00	03.10.18	02.10.21	Dr.B. Ahilan Dean Dr.M.G.R. FC&RI Ponneri
14	Establishment of Fisheries Demonstration Complex at AIIRLIVAS, Thalaivasal	NABARD and Govt. of TN	267.00	03.08.20	02.08.23	Dr.P. Chidambaram Associate Professor Department of Aquaculture Dr.M.G.R. FC&RI, Ponneri
15	Artificial Coral Reef (ACR / LR) and Fish Aggregating Artificial Reef (FAAR) to Enhance Fish Diversity and Biomass in the Sea Near Pulicat Lake Towards fishing Pressure Reduction and Livelihood Improvement of Fisher folk in the Lake Region	TANII	430.66	18.01.21	20.01.24	Dr.D. Manikandavelu Prof and Head, DAEM Dr.M.G.R. FC&RI Ponneri
16	Hands on Training cum Demonstration on “Limited Water Usage Aquaculture Technologies	RKVY - NADP	187.40	01.02.21	31.01.22	Dr.B. Ahilan Dean Dr.M.G.R. FC&RI Ponneri

EXTERNAL FUNDED TRAINING PROGRAMMES				
Sl. No.	Title of the project	Budget received (Rs. in lakhs)	Funding Agency	Year
1	Training and Demonstration of Ornamental Fish Culture	1.95	NFDB	2018
2	Training on establishment of Azolla as feed supplement of GIFT tilapia	1.95	NFDB	2018
3	Training on crab fattening technology	0.97	NFDB	2018
4	Training on Pearl spot breeding and culture	1.95	NFDB	2018
5	Skill Development Training programme on “Basic Techniques in Ornamental Fish culture and breeding”	2.99	TNSDC	2018
6	“Aquaculture Technician” Training Program on Healthy Shrimp and GIFT Tilapia Production using Biofloc Technology	9.00	NFDB	2018
7	Freshwater Ornamental Fish Farming Technology	0.25	ATMA	2020
8	Aquaclinics and Aquapreneurship Development Programme	9.00	NFDB	2020

TECHNOLOGIES STANDARDIZED FOR TRANSFER

- *Fatty acid enrichment of L. vannamei* post larvae by feeding diets enriched with fatty acid emulsions achieved desirable growth performance and found to be best to improve growth and survival of shrimp larvae. Best growth performance was achieved in the shrimp post-larvae fed with 2% fatty acid emulsion and this research finding is applicable for use in low saline shrimp post larvae production hatcheries.
- Standardized technology of Influence of Carbohydrate Enriched Distillery Effluent (MF-CEED) as carbon source in Aerobic Microbial Flocculent Technology in Raceways and Lined ponds and trials have been carried out in rearing GIFT tilapia and Vannamei.
- Comparative Evaluation of Different Hormones on the Reproductive Performance of Pearl Spot (*Etroplus suratensis*) studied and standardized the techniques.
- Standardized and disseminated the breeding and farming technologies of *Etroplus suratensis* to fisher folk (125 fisher folk) through training programme.
- Cage culture techniques of *Etroplus* standardized and technology disseminated through training programmes.
- Standardized mass production technologies in continuous culture system for the following live feeds:
 - ❖ *Chlorella*
 - ❖ *Chlorella salina*

- ❖ *Daphnia*
- ❖ *Moina micrura*
- ❖ *Copepods (Thermocyclops hyalinus)*
- ❖ *Rotifers (Brachionus calyciflorus)*

- The advanced culture techniques in ornamental fishes trained and transferred to improve the cash flow among the farmers and the first step initiated towards facilitating Government of India's goal of doubling farmers' income
- The participants have gained good exposure to knowledge on innovative ornamental fish breeding and rearing technologies in advanced systems like Recirculatory Aquaculture System (RAS), Indoor Raceway Systems, Outdoor Raceway Systems LRTs, and Live Feed Production Systems and the adoption of advanced and economically viable ornamental fish culture technology is ensured.
- Standardized technology of Nursery rearing of Asian seabass in freshwater
- Standardized technology of Seaweed Pickle
- Customized natural spice coating mix for flavoring extruded seaweed snacks

Standardization of breeding and larval rearing techniques for the following native ornamental fish species is in progress:

1. *Puntius denisonii*
2. *P. filamentosus*
3. *P. carnaticus*
4. *P. sophore*
5. *P. arulius*
6. *P. conchonus*
7. *Dwakinsia rohani*
8. *Danio dangila*

The following research works are in the process of standardization

- Comparing the production and harvest efficiency between racewaybased production and photobioreactor based biofloc production methods.
- Formulate and develop biofloc based Vannamei shrimp feed in large scale from raceway based and photobioreactor based biofloc.
- Demonstrate technologies standardized on the biofloc production methods for the biofloc based ecofeed production for vannamei shrimp culture
- To develop Azolla based fish diets for the grow out culture of GIFT Tilapia.

PATENTS FILED

Sl.No.	Patent	Year
1	Configuration of Innovative advanced culture system for Aerobic Microbial Floc Driven Super Intensive Nursery Raceways Technology for <i>Litopenaeus Vannamei</i> .	2016
2	Use of MF-CEED as carbon source in Aerobic Microbial Floc(AMF) driven Nursery Raceway Technology <i>Litopenaeus Vannamei</i> with intensive stocking density of 6000m ³	2016
3	Eco- friendly utilization of MF- Carbohydrate Enriched Distillery Effluent (MF-CEED) in Aerobic Microbial Flocculent Technology	2016
4	A technology entitled Polymerase chain reaction (PCR) primers for the detection of whitespot syndrome virus (WSSV) in shrimp has been patented (Patent no.275441 dated 2.9.2016)	2016

IMPORTANT PUBLICATIONS

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MoU WITH AQUA INDUSTRIES

- M/s. JS.S. Aqua Farm, Thiruvallur
- M/s. VIRBAC Animal Health Private Limited, Mumbai
- M/s. Rajshree Bio Solutions, Coimbatore
- M/s. Blue Lagoon, Pulicat, Thiruvallur District
- M/s. NAAF Aqua Farm Private Limited, Kolathur
- M/s. Kemin Industries South Asia Private Ltd, Chennai
- M/s. Raj Industries, Chennai
- M/s. LIPTOSA, Spain
- M/s. Sri Vari Agency, Ponneri, Thiruvallur District
- M/s. King Aquatic, Kolathur, Chennai
- M/s. Seribu Bio Systems SDN. BHD, Malaysia
- Zion Marine, Chennai

EXHIBITIONS/SEMINARS/CONFERENCES/SYMPOSIA/WORKSHOPS ORGANIZED BY Dr. M.G. R.FC& RI,PONNERI (2014-21)

1. International Meet on “Aquaculture Chennai’14: Sustainable Shrimp Farming – Way Forward”2014 sponsored by NABARD, Chennai, NFDB, Hyderabad, CAA, Chennai, CIBA, Chennai, ICAR, New Delhi and TNSCS&T, Chennai and 23 industries held at Hotel Green Park, Vadapalani, Chennai on June 13-14. No. of Participants- 420.
2. International Workshop on “Advanced Vannamei Farming Strategies and International Success Stories” sponsored by TNJFU and World Aquaculture Society (Asia Pacific Chapter) held at Hotel Green Park, Vadapalani, Chennai on 24.01.2015. No. of Participants- 140.
3. A prelude to the Global Investors’ meet Make in Tamil Nadu sponsored by TNJFU held at Hotel Green Park, Vadapalani, Chennai on 23- 24, May 2015. No. of Participants- 19.
4. Development of continued education programs for TNJFU Alumni (CEAL’2015) sponsored by TNFU held at Dr. MGR FC & RI, Ponneri on 1.08.2015.No. of Participants-77.
5. Resource conservation and alternate livelihood opportunities in coastal Tamil Nadu – ReCAL-TN’15 sponsored by TNJFU held at Hotel Residency Towers, T. Nagar, Chennai on 19-20, August 2015. No. of Participants- 41.
6. Aerobic microbial flocculent driven nursery raceway technology for *Penaeus vannamei* sponsored by Part II Scheme, Govt. of Tamil Nadu and TNJFU held at Aquaculture Research Farm Facility, Madhavaram on 04.11.2015. No. of Participants-42.

7. Breeding of pearl spot in freshwater & transfer of technology to the fisher youth sponsored by TNJFU held at Pulicat Research Farm Facility, Chennai on 18.12.2015. No. of Participants-30.
8. 'PONSHRIMP 2016' on the theme recent trends in Biofloc technology and shrimp disease management sponsored by TNJFU held at Dr. MGR FC & RI, Ponneri on 20.12.2016. No. of Participants- 86.
9. SMART SHRIMP FARMING – 2016"- AMF based Shrimp Nursery Technology for EHP mitigation sponsored by Shenglong Biotech (India) Pvt. Ltd, Chennai and Rajshree Biosolutions (Coimbatore) held at Days Hotel, OMR on 20.05.2016. No. of Participants-140.
10. The International conference Aquaculture Chennai – 2016 on the theme "Reflect & Restore Tempo of Vannamei Shrimp Farming in India" (ACCRRRI'16) sponsored by TNJFU in collaboration with World Aquaculture Society, Asia Pacific Chapter held at Hotel Green Park, Chennai on 23-24, August, 2016. No. of Participants- 230.
11. A workshop on "Our Seas & Sea-coasts: Through the Tribal's Eyes" sponsored by TNJFU held at Dr. MGR FC & RI, Ponneri on 12.09.2016. No. of Participants-86.
12. The National workshop on "Soil and Water Quality Management in Brackishwater Aquaculture" sponsored by TNJFU held at Dr. MGRFC & RI, Ponneri on 03-04, January, 2017. No. of Participants- 20.
13. International workshop on "Advanced Aquaculture Production Systems and Technologies in Shrimp Farming" (IWAASS'17) sponsored by M/s.Vaishaki Bio Marine Shrimps (India) Pvt. Ltd, Chennai and TNJFU held at Hotel Green park, Chennai on 31st January, 2017. No. of Participants- 15.
14. A one day Personality Development Training Workshop, "Create your Destiny" sponsored by TNJFU held at Dr. MGR FC & RI, Ponneri on 18.03.2017. No. of Participants- 150.
15. PONSHRIMP'17- "Responsible Nursery Phase Adoption in Shrimp Farming: Technology Testimonials & Draft Policy Formulations" sponsored by TNJFU held at Dr. MGR FC & RI, Ponneri on 27.05.2017. No. of Participants- 150.
16. "Shrimp Harvest Mela" sponsored by TNJFU held at BRFF, OMR, Vaniyanchavadi on 08.06.2017. No. of Participants-100.
17. International Workshop on "Tilapia: The Future Fish" sponsored by TNJFU held at IPGS, OMR, Vaniyanchavadi on 21.08.2017. No. of Participants-150.
18. Brain storming session on "Better Planning and Budgeting for Climate Change Adaptation in Aquaculture and Fisheries" sponsored by National Bank for Agriculture and Rural Development (NABARD) in association with TNJFU held at Dr. MGR FC & RI, Ponneri on 25.10.17. No. of Participants-30.

19. International Workshop on Innovative Integration and Intensification in Indian Shrimp Industry “IIIS’17” sponsored by World Aquaculture Society – Asian Pacific Chapter in association with TNJFU. No. of Participants- 120.
20. PONSHRIMP’18- Responsible Feeding Management” held at Dr. MGR FC & RI, Ponneri on 25.07.2018. No. of Participants- 150.
21. National Workshop on ‘Ponshrimp 19’ “Aquatic Animal Health Management” held at Dr. MGR FC & RI, Ponneri on 04.10.2019. No. of Participants- 150.
22. National Workshop Accelerating Business Startups in Aquaculture held at Dr. MGR FC & RI, Ponneri IFPGS, Vaniyanchavadi on 14.03.2020. No. of Participants- 200.
23. Webinar on National Fish Farmers Day ‘Innovations in Sustainable Aquaculture’ held at Dr.M.G.R FCRI, Ponneri on 10.07.2020. No. of Participants- 135.
24. Webinar on ‘Scope and challenges in production, value addition, marketing and export of spirulina in the context of a pandemic like Covid-19’ held at Dr.M.G.R FCRI, Ponneri on 18.07.2020. No. of Participants- 120.
25. Webinar on Advances in Aquatic Animal Health Management held at Dr.M.G.R FCRI, Ponneri on 27.07.2020. No. of Participants- 113.
26. Webinar on “Conservation and Management of Marine Fisheries Resources” held at Dr.M.G.R FCRI, Ponneri on 28.07.2020. No. of Participants- 267.
27. Webinar on “Innovative Mission in the Future of Fish Processing” held at Dr.M.G.R FCRI, Ponneri on 29.07.2020. No. of Participants- 230.
28. Webinar on “Status of Ornamental Fish Culture in Tamil Nadu during Pandemic” held at Dr.M.G.R FCRI, Ponneri on 30.07.2020. No. of Participants- 150.
29. Webinar on “Business opportunities for Livelihood and Export Development during Post-Covid 19” held at Dr.M.G.R FCRI, Ponneri on 30.07.2020. No. of Participants- 250.
30. Webinar on “Impact of COVID-19 on Marine Fisheries and Seafood Marketing” held at Dr.M.G.R FCRI, Ponneri on 06.08.2020. No. of Participants- 220.
31. Online training cum workshop ”Harnessing PMMSY for Aquapreneurship development in Tamil Nadu” held at Dr.M.G.R FCRI, Ponneri on 10.09.2020. No. of Participants- 150.
32. Annual National Conference “PONSHRIMP” in the theme of soil & water quality management for sustainable shrimp farming held at Dr.M.G.R FCRI, Ponneri on 08.10.2020. No. of Participants- 65.
33. Webinar on “Covid-19 and Its Impact on Food security among Marine Fisher folk ” held at Dr.M.G.R FCRI, Ponneri on 29.07.2020. No. of Participants- 230.
34. Workshop on ‘Application of Statistics Using MS Excel in Research’ held at Dr.M.G.R FCRI, Ponneri on 29.01.21-30.01.21. No. of Participants- 19.

TRAINING PROGRAMMES ORGANIZED AT Dr. MGR FC&RI, PONNERI (2014-21)

Sl. No.	Title of the Training	No. of Participants	Dates
1.	Ornamental Fish Culture	7	18.02.14 to 20.02.14
2.	Shrimp Farming	12	25.02.14 to 27.02.14
3.	Fresh water fish farming	12	11.03.14 to 13.02.14
4.	Preparation of value added fish products	5	18.03.14 to 20.03.14
5.	Spirulina cultivation	9	25.03.14 to 27.03.14
6.	Ornamental fish farming technology	7	08.04.14 to 10.04.14
7.	GIFT – Tilapia culture technology	21	19.04.14 to 21.04.14
8.	Fresh water fish farming technology	4	13.05.14 to 15.05.14
9.	Vannamei Shrimp farming technology	38	27.05.14 to 29.05.14
10.	Ornamental fish farming technology	17	10.06.14 to 12.06.14
11.	GIFT – Tilapia Culture Technology	3	24.06.14 to 26.06.14
12.	Fresh water fish farming technology	5	15.07.14 to 17.07.14
13.	Vannamei Shrimp farming technology	7	22.07.14 to 24.07.14
14.	Ornamental fish farming technology	11	12.08.14 to 14.08.14
15.	GIFT – Tilapia Culture Technology	10	26.08.14 to 28.08.14
16.	Fresh water fish farming technology	18	09.09.14 to 11.09.14
17.	Vannamei Shrimp farming technology	9	23.09.14 to 25.09.14
18.	Ornamental Fish Culture	30	28.01.14
19.	Integrated carp farming in multipurpose farm ponds	19	12.02.14
20.	Sea bass farming in fresh water	8	26.02.14
21.	Value added fishery byproducts	30	04.02.14 to 14.02.14
22.	Value added fishery byproducts	30	19.02.14 to 28.02.14
23.	Value added fish products preparation	14	25.03.14
24.	GIFT-Tilapia harvest mela	34	05.04.14

25.	Spirulina cultivation	40	10.04.14 to 12.04.14
26.	Value added fishery byproducts	40	24.07.14 to 08.08.14
27.	Inland fish farming	25	30.10.14
28.	Fish culture in farm ponds	11	07.11.14
29.	Fish culture in farm ponds	4	18.11.14
30.	Spirulina cultivation	13	04.02.2015 – 06.02.2015
31.	Ornamental Fish Culture	8	05.02.2015 – 06.02.2015
32.	Spirulina cultivation	15	24.02.2015 – 26.02.2015
33.	Spirulina cultivation	9	15.04.2015 - 17.04.2015
34.	Fresh water fish farming	13	14.05.2015- 17.05.2015
35.	Vannamei Shrimp Farming	11	25.05.2015 - 27.05.2015
36.	Ornamental Fish Culture	4	26.08.2015 to 27.08.2015
37.	Vannamei Shrimp Farming	17	08.09.2015 to 10.09.2015
38.	Fresh water fish farming	4	29.09.2015 to 30.09.2015
39.	Fish culture in farm ponds	20	30.01.2015
40.	Fish culture in farm ponds	14	26.02.2015
41.	Value added fish products preparation	42	04.03.2015
42.	Hygienic handling of fish and value added fish products	15	03.08.2015
43.	Preparation of fish pickle	30	31.10.2015
44.	Vannamei Shrimp Farming	11	19.01.16 - 21.01.2016
45.	Water Quality Management in Aquaculture	12	09.02.2016- 10.02.2016
46.	Value added fish products preparation	20	15.03.2016- 16.03.2016
47.	Pangasius Fish Culture	11	25.05.2016
48.	Ornamental Fish Culture	11	28.07.2016- 29.07.2016
49.	GIFT – Tilapia Culture	06	17.08.2016- 18.08.2016
50.	Vannamei Shrimp Farming	10	20.09.2016- 22.09.2016
51.	Contact class for Radio lesson on fish farming	50	08.11.2016
52.	Carp fish culture	15	15.11.2016- 16.11.2016
53.	Value added fish products preparation for the benefit of coastal fisher women (sponsored by	40	05.07.2016

	TAFCOFED)		
54.	Value added fish products preparation for the benefit of coastal fisher women (sponsored by TAFCOFED)	38	25.07.2016
55.	Vannamei Shrimp Farming	10	25.4.2017 to 27.04.2017
56.	Pearl spot breeding and its culture techniques at PRFF, Pazhaverkadu	35	11.05.2017 – 12.05.2017
57.	Contact class for Distance Education course on Fresh Water Fish Farming	11	06.06.2017 - 07.06.2017
58.	The Pearl spot breeding and its culture techniques at PRFF, Pazharverkadu	65	24.07.2017 – 26.07.2017
59.	The Pearl spot breeding and its culture techniques at PRFF, Pazharverkadu	40	11.09.2017 – 13.09.2017
60.	Vannamei Shrimp Farming	6	20.09.2017 - 22.09.2017
61.	Water Quality Management in Aquaculture	15	24.10.2017
62.	Spirulina Cultivation and Value Addition	9	28.11.2017- 29.11.2017
63.	Preparation of Value added Fishery products preparation	8	19.12.17 – 20.12.17
64.	Ornamental Fish Farming Technologies	51	09.01.2018 - 11.01.2018
65.	Spirulina Cultivation and Value Addition	9	20.02.2018 - 21.02.2018
66.	Contemporary Value-Added Fishery Products	50	14.03.2018 - 16.03.2018
67.	Contemporary Value-Added Fishery Products	50	20.03.2018 - 22.03.2018
68.	Healthy Shrimp and GIFT Tilapia Farming using Biofloc Technology	50	12.03.2018 - 14.03.2018
69.	Healthy Shrimp and GIFT Tilapia Farming using Biofloc Technology	50	22.03.2018 - 24.03.2018
70.	Mud Crab Fattening- New Techniques and Developments	50	14.03.2018 - 16.03.2018
71.	Distance Education Course “Freshwater fish farming technologies” – contact classes	9	11.04.2018 - 12.04.2018
72.	Training & Demonstration of Pearl Spot Breeding & Culture Technology	50	18.04.2018 - 20.04.2018
73.	Demonstration on Manual Microbiological Identification Tool (APi) at DR. MGR FC&RI, Ponneri	Students	26.04.2018 - 27.04.2018
74.	Training programme on improving productivity in shrimp farming funded by Kemin Industries South Asia Private Limited	20	03.05.2018- 04.05.2018
75.	Training and Demonstration of Ornamental Fish Culture held at ARTP, TNJFU, Madhavaram campus	50	08.05.2018 - 10.05.2018
76.	Carp Fish Farming	8	29.04.2019 &

			30.04.2019
77.	Production, Packing, Quality Control and Marketing of Value Added Fish Products	5	22.05.2019 to 31.05.2019
78.	Demonstration of TNJFU-FMS to staffs of Dr.M.G.R FC & RI, Ponneri	40	18.07.2019
79.	Value Added Fishery products	9	06.08.2019 & 07.08.2019
80.	Spirulina Cultivation and Value Addition	20	28.08.2019 & 29.08.2019
81.	Fresh water farming technologies	28	24.09.2019 – 25.09.19
82.	Biosecured biofloc technologies	50	24.10.2019 – 25.10.19
83.	Ornamental fish culture technologies	19	19.11.2019 – 20.11.19
84.	Value Added (Baked) Fishery Products	3	09.12.2019 to 11.12.2019
85.	Green Farming Aquaponics:A Step ahead for Less Carbon Footprint in Aquaculture	50	31.12.2019
86.	Quality dried fish and fish products by using Solar tunnel dryer	33	03.01.2020
87.	Crab Culture and Cage Culture of Fish	30	04.03.2020 to 05.03.2020
88.	Ornamental Fish Farming for Community Development	52	06.03.20
89.	Ornamental Fish Farming for Entrepreneurial Motivation	55	13.03.2020
90.	Ornamental Fish Farming for Entrepreneurial Motivation	23	16.03.2020
91.	Value added Fishery Products	35	18.03.2020
92.	Conservation and management of marine fisheries resources	252	28.07.2020
93.	Freshwater Fish Culture	22	14.10.2020 & 15.10.2020
94.	Biofloc Technology based Tilapia and Shrimp culture	27	09.11.2020 - 11.11.2020
95.	Freshwater Ornamental Fish Farming Technology	15	17.11.2020 - 19.11.2020
96.	Production, Packaging, Quality control, and Marketing of value-added fish and seaweed products	18	19.11.2020 - 20.11.2020
97.	Culture of Asian Seabass using Recirculating Aquaculture system	20	23.11.2020 - 28.11.2020
98.	Freshwater Ornamental Fish Farming Technology	15	24.11.2020, 27.11.2020 & 28.11.2020
99.	Culture of Asian Seabass using Recirculating Aquaculture system	20	14.12.2020 - 18.12.2020
100.	Freshwater Ornamental Fish Farming	33	23.12.2020-

	Technology		24.12.2020
101.	Culture of Asian Seabass using Recirculating Aquaculture system	20	18.01.2021 - 22.01.2021
102.	Ornamental Fish Farming Technology	40	24.11.2020, 27.11.2020 & 28.11.2020
103.	Culture of Asian Seabass using Recirculating Aquaculture system	20	22.02.21 - 26.02.21
104.	Vannamei Shrimp Farming technology	16	25.02.2021 - 26.02.2021
105.	‘Enhancing the income of the Fishermen of Pulicat through Advanced Long Line and Gill Netting Techniques’	50	01.03.2021

6.5.7.OUTCOME/OUTPUT

6.5.7.1.STUDENT PERFORMANCE IN NATIONAL EXAMINATIONS

Details of passed out students (2014-15, First batch from Ponneri campus)

Out of 20, 19 has passed out and their current status of higher studies and employment is given below.

Sl. No.	Name of the student	Current position	AIEEA Rank	
			Overall	Community
1	Ajith Kumar, M	PG Scholar Biotechnology & Genetics, ICAR-CIFE, Mumbai	52 (ICAR-JRF)	21
2	Bhavatharaniya, U	Seeking for job	119	54
3	Dhanalakshmi, M	PG Scholar DFRM, ICAR-CIFE, Mumbai	10	3
4	Mangaiyarkarasi, M	Quality Controller, Waterbase, Nellore	Appeared for online AIEEA but not turned up for offline AIEEA	
5	Manikandan, V	PG Scholar DFPT, SVVU, Muthukur, AP	157	68
6	Mareeswari, K	PG Scholar MBA, IPGS, Vaniyanchavadi.	Not appeared for AIEEA	
7	Mohammed Faizullah, S	Processing to study in abroad	Appeared for online AIEEA but not turned up for offline AIEEA	
8	Naveen Kumar, R	PG Scholar DAAHM, ICAR-CIFE, Mumbai	82	5
9	NaveenRajeshwar, B	PG Scholar DAAHM, WBUAFS,	79 (ICAR-JRF)	-

		Kolkatta		
10	Philominal, P	PG Scholar DAAH, Dr. M.G.R. FC & RI, Ponneri	168	75
11	SahayaFlamin, T	Seeking for job	Appeared for AIEEA but not eligible	
12	Sakthi Saravanan, N	Quality Controller, Waterbase, Nellore	Appeared for online AIEEA but not turned up for offline AIEEA	
13	Santhosh Kumar, A	PG Scholar DFRM, SVVU, Muthukur, AP	170	79
14	Satheesh, R	PG Scholar DAQ, SVVU, Muthukur, AP	113	51
15	Sathish Kumar, G	PG Scholar DFN&FT, IPGS, Vaniyanchavadi	179	79
16	Tamil Kaviya, S	Seeking for job	274	37
17	Vanmathi, R	Quality Controller, Waterbase, Nellore	Appeared for online AIEEA but not turned up for offline AIEEA	
18	Vignesh, M	PG Scholar DAQ, WBUAFS, Kolkatta	83	39 Got admission through All India Entrance Examination for Admission (AIEEA)
19	Viswanth, G	PG Scholar DFPT, Dr. M.G.R. FC & RI, Ponneri	209	27

Details of passed out students (2015-16, Second batch from Ponneri campus)

Sl. No.	Name of the student	Current position	AIEEA Rank	
			Overall	Community
1.	Angela Brighty, R.J	PG Scholar Post-Harvest Technology, ICAR-CIFE, Mumbai	27	11
2.	Arputha, L.	Preparing for competitive exams at SMART LEADERS IAS Academy, Trichy	-	-
3.	Arunachala Sivamani, P.	PG Scholar DFPT, KUFOS, Kerala	149	71
4.	Arunashri, A.	PG Scholar Fish Physiology and	137	9

		Biochemistry, ICAR-CIFE, Mumbai		
5.	Arunkumar, D.	PG Scholar Aquaculture, ICAR-CIFE, Mumbai	123 (JRF)	6
6.	Arun Pandian, G.	Preparing for competitive exams at Manidha Naeyam IAS Academy, Chennai	-	-
7.	Chandran, S.	Preparing for competitive exams		
8.	Chandru, T.	Preparing for competitive exams	-	-
9.	Gokulakrishnan, M.	PG Scholar Aquaculture, Collage of Fisheries, Orissa	148	70
10.	Hariharan, M.	PG Scholar Aquaculture, ICAR-CIFE, Mumbai	38	16
11.	Harshavarthini, M.	PG Scholar Biotechnology & Genetics, ICAR-CIFE, Mumbai	48	23
12.	Hermon Jisha, R.H.	PG Scholar M.Sc, Ecology, Pondicherry University, Puducherry	-	-
13.	Hinduja R	Married	-	-
14.	Janathul Birthose, M.	Quality controller Processing Plant, Tuticorin	-	-
15.	Jeffry Mol, JG.	PG Scholar Aquatic Environment Management, KUFOS, Kerala	139	68
16.	John Kirubakaran, J	-	-	-
17.	Karthikeyan, K.	Preparing for competitive examinations at Manidha Naeyam IAS Academy, Chennai	-	-
18.	Karthikeyan, R.	-	-	-
19.	Kavinesan, K.	PG Scholar DFPT, FC & RI, TNJFU, Tuticorin		
20.	Krishnaveni, K.N.	PG Scholar Fisheries Extension, ICAR-CIFE, Mumbai	60	29
21.	Lavanya, K.	PG Scholar AAHM, KUFOS, Kerala	109	54
22.	Manikandan S		-	-
23.	Manimaran, H.	PG Scholar Aquaculture, Dr. MGR FC & RI, TNJFU, Ponneri		

24.	Munna Rai	Fisheries Department Bhutan	-	-
25.	Muthiah Sethupathy, A.	PG Scholar DFPT, Dr. MGR FC & RI, TNJFU, Ponneri	179	84
26.	Pradeep, S.	-	-	-
27.	Praveenkumar, P.	PG Scholar DFPT, KUFOS, Kerala		
28.	Prithiviraj, M.	PG Scholar DFPT, KUFOS, Kerala		
29.	Raghuvaran, N.	PG Scholar Fish Nutrition and Feed Technology, ICAR-CIFE, Mumbai	6	2
30.	Raghuram, R.	PG Scholar Fish Nutrition & Feed Technology, KUFOS, Kerala	76	39
31.	Rajalakshmi, K.	PG Scholar Fish Nutrition & Feed Technology, KUFOS, Kerala	302	129
32.	Ranjithkumar, K.	Technician (Farming) Sriharikotta		
33.	Revathi, A.	PG Scholar Fish Nutrition and Feed Technology, ICAR-CIFE, Mumbai	107	3
34.	Seenivasan, P.	PG Scholar Fisheries Economics, ICAR- CIFE, Mumbai	64	32
35.	Selvakumar, S.	Scale one Officer, Thanjavur	-	-
36.	Subana, R.	Married		
37.	Surya, P.	Marketing, M/s. Visharaa Biotech, Pattukkottai	-	-
38.	Suvetha, V.	PG Scholar Fisheries Extension, ICAR- CIFE, Mumbai	59	28
39.	Vijay, G.	PG Scholar Aquaculture, Dr. MGR FC & RI, TNJFU, Ponneri	164	77
40.	Vijayarahavan, C.	Marketing, M/s. Vetoquinol, Ponneri	-	-
41.	Divya Pramitha, J	M.Sc. (Food Science and Nutrition), Pondicherry University, Puducherry	-	-

Details of passed out students (2016-17, Third batch from Ponneri campus)

S.No	Name	Current position	AIEEA Rank	
			Overall	Community
1.	Ahila M S	PG Scholar DFEC, ICAR-CIFE, Mumbai	53	OBC-32
2.	Aishwarya K	Preparing for competitive exams		
3.	Ajith Balaji M	Technician at UniBio Hatcheries Pvt. Ltd., Chengalpattu	527	SC-89
4.	Ajithkumar D	Technician at UniBio Hatcheries Pvt. Ltd., Chengalpattu		
5.	Arun Revanth V	Preparing for competitive exams	Not applied	
6.	Balaji R	Technician at UniBio Hatcheries Pvt. Ltd., Chengalpattu	-	-
7.	Balamanikandan V	PG Scholar DFQAM, TNJFU, Tuticorin		
8.	Bindiya Sharma	Livestock Production Officer at Haa, Bhutan	Not applied	
9.	Darshiny M P	PG Scholar DFBT, ICAR-CIFE, Mumbai	39	OBC-22
10.	Dhinesh R	PG Scholar DAEM, TNJFU, Ponneri	199	ST-15
11.	Dillibabu S	Preparing for competitive exams	Not applied	
12.	Dinesh Kumar E	PG Scholar DFTFE, TNJFU, Tuticorin	-	OBC-109
13.	Dona V	Preparing for competitive exams	Not applied	
14.	Edwin A	Preparing for competitive exams	Not applied	
15.	Elanchinamathi S	Preparing for competitive exams		
16.	Gayathridevi M	PG Scholar DFPT, TNJFU, Ponneri	Not applied	
17.	Geetha M	PG Scholar DFEX, ICAR-CIFE, Mumbai	49	OBC-28
18.	Gnana Prakash J	Preparing for competitive exams	Not applied	
19.	Gokul S	PG Scholar DAQC, OUAT, Berhampur		
20.	Gokulprasanth M	PG Scholar DFPT, TNJFU, Ponneri	231	OBC-106
21.	Gowrimanohari R	PG Scholar	64	OBC-36

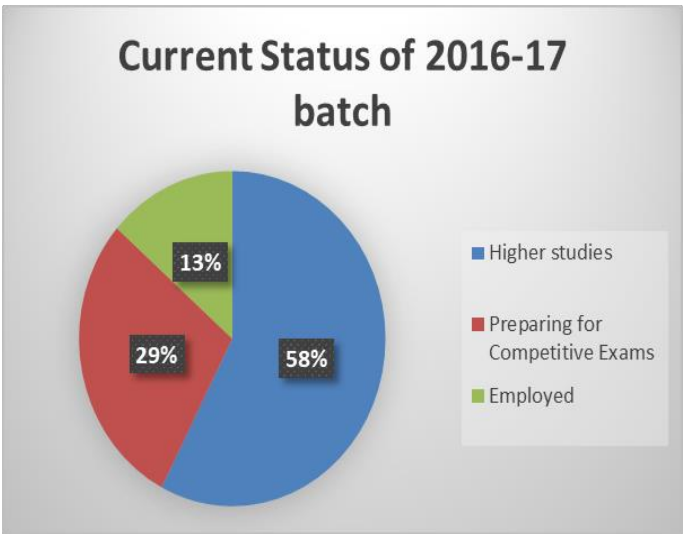
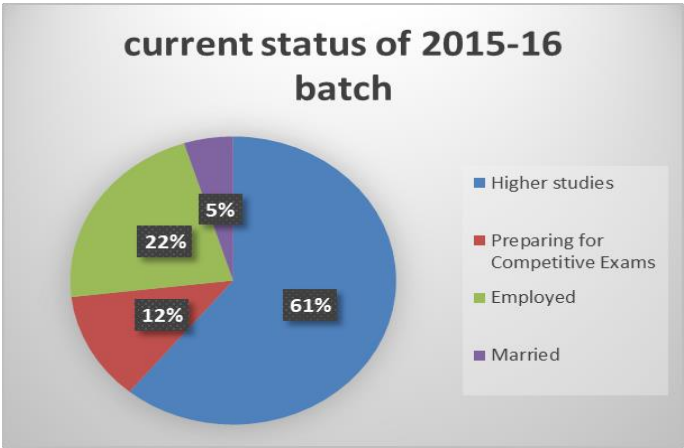
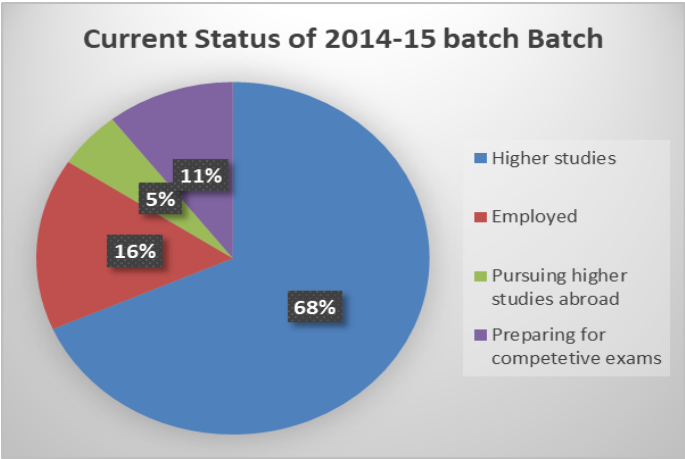
		DFGB, CAU, Lembucherra		
22.	Gururaj M	PG Scholar DAAH, TNJFU, Ponneri		
23.	Ilamathi R	Preparing for competitive exams	164	OBC-79
24.	Jayasurya A	Preparing for competitive exams	Not applied	
25.	Keerthivarman G S	PG Scholar DAEM, TNJFU, Ponneri	Applied, but not appeared for exam	
26.	Kirthiga S S	PG Scholar DAEM, KUFOS, Kochi	67	OBC-37
27.	Lavanya G	Preparing for competitive exams		
28.	Mani Selvam J	PG Scholar DFEC, ICAR-CIFE, Mumbai	52	OBC-31
29.	Mathiveni M	Preparing for competitive exams		
30.	Mohammed Tabrez E	Farm technician in Shrimp farm, Ponneri	Applied but not appeared for exam	
31.	Monishkumar A	PG Scholar DFNFT, TNJFU, Vaniyanchavadi		
32.	Mouniya A	Preparing for competitive exams	-	-
33.	Mukeshkannan M	PG Scholar DFPT, CAU, Lembucherra	387	OBC-169
34.	Nishanth B		Not applied	
35.	Parthasarathi P K	PG Scholar DAQC, TNJFU, Ponneri		
36.	Phub Dem	Livestock Production Officer at Gelephu, Bhutan	Not applied	
37.	Porkodi M	PG Scholar DFGB, ICAR-CIFE, Mumbai	31	OBC-18
38.	Prabhavathi K	Preparing for competitive exams	13	OBC-8
39.	Premkumar R	Territory sales executive at Virbac, Pattukottai		
40.	Priyanga A	Preparing for competitive exams	Not applied	
41.	Raghul R	PG Scholar DFGB, ICAR-CIFE, Mumbai	32	OBC-19
42.	Rakesh P	PG Scholar DAAH, TNJFU, Tuticorin		
43.	Ramji B	PG Scholar DAQC, TNJFU, Tuticorin	316	SC-44

44.	Ramya V	PG Scholar DAQC, ICAR-CIFE, Mumbai	25	OBC-14
45.	Rhea Catherine G	Preparing for competitive exams		
46.	Risvana B	PG Scholar DFTFE, KUFOS, Kochi	184	OBC-90
47.	Sandhiya V	PG Scholar DPHT, ICAR-CIFE, Mumbai	10	GEN
48.	Sanjay T	PG Scholar DAQC, TNJFU, Ponneri		
49.	Satheesh M	PG Scholar DFNFT, ICAR-CIFE, Mumbai	58	SC-2
50.	Shreelekha M P	PG Scholar DAAH, TNJFU, Ponneri	247	OBC-113
51.	Sobiya M	PG Scholar DFPT, KUFOS, Kochi	117	OBC-58
52.	Suguna P	PG Scholar DPHT, ICAR-CIFE, Mumbai	23	OBC-13
53.	Vasanth K	PG Scholar DFTFE, KUFOS, Kochi	Not applied	
54.	Veeramani Maruthi K N	PG Scholar DFNFT, ICAR-CIFE, Mumbai	7	OBC-4
55.	Velmurugan A	PG Scholar DAQC, TNJFU, Tuticorin		
56.	Venkatesh K	PG Scholar DAQC, OUAT, Berhampur	250	SC-34
57.	Vignesh D	Preparing for competitive exams	Not applied	
58.	Vignesh V	PG Scholar DAQC, KUFOS, Kochi	70	OBC-40
59.	Yuvarakini B	Preparing for competitive exams	Not applied	

6.5.7.2. STUDENTS PLACEMENT PROFILE

The Student's Placement and Career guidance cell of Dr. M.G.R Fisheries College and Research Institute, Ponneri makes arrangement for the conduct of campus interview for the placement of fisheries graduates in aquaculture and fish processing industries. The cell maintains a database of

fisheries graduates and postgraduates who have passed out from the Institute and provides the list to various corporate companies and educational institutes under SAUs for recruitment. Further, the cell collects and disseminates information on higher education in India and abroad for the welfare of the student community.



During every year under report, the cell arranged a campus interview for M/s. CP Aquaculture, Chennai for the benefit of outgoing UG and PG students. In addition, the cell conducted six ICAR - JRF mock examination for the benefit of the final year B.F.Sc. students for every year. Out of 19 students from 2014-15 batch, 8 students got good ranks in ICAR - JRF examination (2017-18) and secured PG admission in ICAR-CIFE, Mumbai, West Bengal University of Animal and Fishery Sciences (WBUAFS), Kolkata & Sri Venkateshwara Veterinary University (SVVU), Tirupathi. Three students got placement in WaterBase, Nellore and Andhra Pradesh as quality controller. Out of 41 students from 2015-16 batch, 10 students got good ranking in ICAR-JRF examination and pursuing PG degree in ICAR-CIFE, Mumbai. Out of 59 students from 2016-17 batch, 11 students got good ranking in ICAR-JRF examination and pursuing PG degree in ICAR-CIFE, Mumbai.

6.5.7.3. AWARDS/RECOGNITIONS/CERTIFICATES

Awards/recognitions/certificates intabular form for last five years for students

Batch	Name of the Student	Name of the Award	Conferred by
UG			
2014-15	G. Viswanth and Mohammed Faizullah	III Prize in Poster Competition	ICAR-CIFE, Mumbai During Second National Students Convention held during 3-5 March 2017
2014-15	Dhanalakshmi, M Naveenkumar, R Ajithkumar, M	ICAR JRF	ICAR, New Delhi
2015-16	Arun Pandian, G and Gokulakrishnan, M	Best Project Exhibit for Aquaponics	Science City, Chennai during Science City festival held in Jan. 2017
Ph.D			
2016-17	Ezhilarasi, V	Appreciation award for Induced breeding of pearl spot	TNJFU during Research Council meeting held in Aug. 2018
2016-17	Menaga, M	Appreciation award for developing technology for Rearing Tilapia in biofloc based system	TNJFU during Research Council meeting held in Aug. 2018

2018-19	Ezhilmathi, S	Appreciation award for the development of Nutrifloc technology	TNJFU during Research Council meeting held in Aug. 2018
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AWARDS/RECOGNITIONS/CERTIFICATES IN TABULAR FORM FOR LAST FIVE YEARS FOR FACULTY

Details given in 6.5.2.3. Credentials of the Faculty

6.5.7.4.EMPLOYABILITY

As per the recommendations of V Deans' Committee, our students undergo "Student READY programme" during fourth year. The Student Ready Programme includes In Plant Attachment (0+14 credits), Rural Fisheries Work Experience (0+4), All India Study Tour (0+2), Experiential Learning Programme (0+15 credits) and Skill Development programme (0+5 credits). The In- Plant Training (IPT) provides a unique opportunity for the students to work with the fishers, fish farmers, entrepreneurs, industries and NGOs in their farms, hatcheries, Feed mills, processing plants. Students get exposure to the commonly felt and unfelt problems in industries and needs of the fisherfolk. With sound basic background, this practical field experience equips the students fully with desired professional skills and enabling them to serve the fishing and fish farming communities.

Experiential learning programme facilitates the students to develop analytical and entrepreneurial skills and knowledge through hands on experience to build up confidence in their ability to design and execute the work assigned. Rural Fisheries Work Experience is provided to make the students aware of the socio-economic conditions of the fishing villages and the livelihood status of the fishers. They also get an exposure on the Fish landings and Fishing crafts and gears used in the nearby fishing villages. They identify the problems and suggest solutions for development of the fisherfolk. Skill Development Programme includes formulation and preparation of aqua feed, analysis of soil and water quality parameters and preparation of fishery products which will enable the students to acquire the skills to enhance their employability. Industrial personnel from Aquaculture and Fish Processing are serving as Adjunct Faculty for teaching and field exposure. This facilitates the student to be aware of industry requirements and to develop their skill sets to make them employable. Such exposure has helped the students in getting better understanding of the modern technologies associated with fish farming and processing. The knowledge and skill acquired in Student READY programme helps the students in finding suitable jobs in fisheries industry.

6.5.8. SSR for UG (B.F.Sc),PG (M.F.Sc- Aquaculture, Aquatic Animal Health Management, Aquatic Environment Management, Fisheries Resource Management, Fish Processing Technology and Ph.D- Aquaculture, Aquatic Animal Health Management, Aquatic Environment Management) Degree Programmes are attached.

CERTIFICATE

I, the Dean **Dr. B. Ahilan** hereby certify that the information contained in Sections 6.4 and Section 6.5.1 to 6.5.7.4 are furnished as per the records available in the college and degree awarding university.


DEAN
Dr. MGR FC & RI
Ponneri - 601 204.

**Signature of the Dean of the college
with Date & Seal**



TAMIL NADU Dr. J JAYALALITHAA FISHERIES UNIVERSITY

Self Study Report for Under Graduate
Degree (B.F.Sc) Programme

Submitted by

Dr. M.G.R Fisheries College and Research Institute
TH Road, Ponneri – 601 204
Tamil Nadu

6.4. SELF STUDY REPORT FOR THE UG (B.F.SC) PROGRAMME

BRIEF HISTORY OF THE B.F.SC. DEGREE PROGRAMME:

Fisheries College and Research Institute, Ponneri was started as the Institute of Fisheries Technology, Ponneri on 20.02.2013 by the Government of Tamil Nadu, subsequently upgraded as a college on 23.4.2015. Bachelor of Fisheries Science (B.F.Sc) is the only Under Graduate (UG) Programme offered by the college. First batch of B.F.Sc students (20 Nos.) joined during 2014-15 and the strength was subsequently raised to 40, 60, 60, 60, 60 and 45 numbers respectively during the academic years 2015-16, 2016-17, 2017-18, 2018-19, 2019-20 & 2020-21. In total there are seven departments functioning in the college, all of these departments are offering courses in the B.F.Sc Degree Programme.

UG DEGREE COURSES OFFERED AT Dr.M.G.R. FC & RI, PONNERI

1. DEPARTMENT OF AQUACULTURE

Sl.No.	Course No.	Course title	Credit Hours
1	FS 101	Principles of Aquaculture	2 (1+1)
2	FS 110	Freshwater Aquaculture	3 (2+1)
3	FS 111	Aquaculture in Reservoirs	2(1+1)
4	FS 211	Genetics and Breeding	2 (1+1)
5	FS 202	Fish Food Organism	2 (1+1)
6	FS 201	Ornamental Fish Production and Management	2(1+1)
7	FS 210	Coastal Aquaculture and Mariculture	3 (2+1)
8	FS 302	Introduction to Biotechnology and Bioinformatics	3 (2+1)
9	FS-310	Shellfish Hatchery Management	2(1+1)
10	FS 308	Aquaculture Engineering	3 (2+1)
11	FS 212	Fish Nutrition and Feed Technology	3 (2+1)
12	FS 301	Finfish Hatchery Management	3 (2+1)

2. DEPARTMENT OF FISH PROCESSING TECHNOLOGY

Sl. No.	Course No.	Title of the Course	Credit Hours
1.	FS-106	Fundamentals of Biochemistry	2+1
2.	FS-107	Fundamentals of Microbiology	2+1
3.	FS-117	Food Chemistry and Fish in Nutrition	2+1
4.	FS- 206	Freezing Technology	1+1
5.	FS-217	Fish Canning Technology	1+1
6.	FS-306	Fish By-Products and Waste Utilization	1+1
7.	FS-307	Microbiology of Fish and Fishery Products	2+1

8.	FS-313	Fish Products and Value Addition	2+1
9.	FS-314	Fish Packaging Technology	1+1
10.	FS-315	Quality Assurance of Fish and Fishery Products	2+1

3. DEPARTMENT OF AQUATIC ENVIRONMENT MANAGEMENT

Sl.No.	Course No.	Course Title	Credit hours
1.	FS 104	Meteorology, Climatology and Disaster Management	3 (2 +1)
2.	FS 105	Soil and water chemistry	3 (2+1)
3.	FS 115	Limnology	3 (2+1)
4.	FS 116	Marine Biology	3 (2+1)
5.	FS 205	Aquatic Ecology and Biodiversity	3 (2+1)
6.	FS 215	Fishery Oceanography	2 (1+1)
7.	FS 216	Aquatic pollution and Coastal zone management	3 (2+1)

4. DEPARTMENT OF FISHERIES RESOURCE MANAGEMENT

Sl. No.	Course No.	Title of the Course	Credit Hours
1.	FS-102	Taxonomy of Finfish	3 (1+2)
2.	FS-103	Anatomy and Biology of Finfish	3 (2+1)
3.	FS-112	Taxonomy of Shellfish	2 (1+1)
4.	FS-113	Anatomy and Biology of Shellfish	2 (1+1)
5.	FS-114	Inland Fisheries	3 (2+1)
6.	FS-204	Marine Fisheries	3 (2+1)
7.	FS-214	Physiology of Finfish and Shellfish	3 (2+1)
8.	FS-305	Population Dynamics and Stock Assessment	3 (2+1)

5. DEPARTMENT OF AQUATIC ANIMAL HEALTH MANAGEMENT

Sl.No.	Course No.	Course title	Credit Hours
1.	FS 203	Fish Immunology	2 (1+1)
2.	FS 213	Fish and Shellfish Pathology	3 (2+1)
3.	FS 303	Pharmacology	3 (2+1)
4.	FS 304	Fish Toxicology	2 (1+1)
5.	FS 311	Microbial and Parasitic Diseases of Fish and Shellfish	3 (2+1)
6.	FS 312	Therapeutics in Aquaculture	2 (1+1)

6. DEPARTMENT OF FISHING TECHNOLOGY AND FISHERIES ENGINEERING

Sl.No.	Course No.	Course title	Credit Hours
1.	FS 207	Refrigeration and Equipment Engineering	3 (2+1)
2.	FS 218	Fishing Gear Technology	2 (1+1)
3.	FS 309	Fishing Craft Technology	2 (1+1)
4.	FS 316	Fishing Technology	2 (1+1)
5.	FS 317	Navigation And Seamanship	2 (1+1)

7. DEPARTMENT OF FISHERIES EXTENSION, ECONOMICS AND STATISTICS

Sl.No.	Course Code	Course Title	Credit Hours
1	FS108	Statistical Methods	3 (2 + 1)
2	FS118	Information and Communication Technology	2 (1 + 1)
3	FS208	Fisheries Extension Education and Personality Development	3 (2 + 1)
4	FS209	Fisheries Economics	3 (2 + 1)
5	FS318	Fisheries Administration and Entrepreneurship Development	2 (2 + 0)
6	FS319	Fisheries Co-operatives, Marketing and Business Management	3 (2 + 1)
7	FS401	Student READY Programme	
		a) In-plant attachment (for 8 weeks)	10 (0 + 10)
		b) Rural Fisheries Work Experience Prog. (for 8 weeks)	8 (0 + 8)
		c) Study Tour (in and outside State) (for 4 weeks)	2 (0 + 2)

6.4.2. FACULTY STRENGTH:

DEPARTMENT WISE FACULTY STRENGTH:

Sl.No.	Name of the Post	Sanctioned strength	Staff in position	No. of Vacancy	Recommendations of V Deans' Committee
Dean's Office					
1.	Dean	1	1	0	1
I - Department of Aquaculture					
1.	Professor	1	1	0	1
2.	Associate Professor	2	1 ^a	1	2
3.	Assistant Professor	6	(1 ^f +5)	0	3

II- Department of Aquatic Animal Health Management					
1.	Professor	-	-	-	1
2.	Associate Professor	-	-	-	1
3.	Assistant Professor	2	(1+1 ^b)	0	2
III - Department of Fisheries Resource Management					
1.	Professor	-	-	-	1
2.	Associate Professor	1	-	1	2
3.	Assistant Professor	3	2	1	3
IV - Department of Aquatic Environment Management					
1.	Professor	-	-	-	1
2.	Associate Professor	-	-	-	1
3.	Assistant Professor	3	(1 ^b +2)	0	3
V - Department of Fish Processing Technology					
1.	Professor	-	-	-	1
2.	Associate Professor	1	1 ^a	0	3
3.	Assistant Professor	4	4	0	5
VI - Department of Fishing Technology and Fisheries Engineering					
1.	Professor	-	-	-	1
2.	Associate Professor	-	-	-	1
3.	Assistant Professor	3	(1 ^c +2)	0	2
VII - Department of Fisheries Extension, Economics and Statistics					
1.	Professor	-	-	-	1
2.	Associate Professor	2	(1 ^a +1 ^e)	0	1
3.	Assistant Professor	2	2	0	2
Total		31	28	3	39

Note: **a** = Professor shown against the post of Associate Professor and functioning as Professor & Head of the respective department; **b** = Professor shown against the post of Assistant Professor; **c** = Assistant Professor or contractual basis; **d** = Professor deputed from other unit of the university and functioning as Professor & Head of the respective department; **e** = Assistant Professor shown against the post of Associate Professor and functioning as Head of the respective department; **f** = Associate professor shown against the post of Assistant professor

6.4.3. TECHNICAL AND SUPPORTING STAFF:**STATUS OF OVERALL ADMINISTRATIVE, TECHNICAL AND SUPPORTING STAFF:**

Sl.No	Name of the Post	Sanctioned strength	Staff in position	No. of Vacancy	V Dean committee recommendation
Administrative Staff					
1.	Administrative Officer	1	1	0	1
2.	Assistant Accounts Officer	1	1*	0	-
3.	Superintendent	2	1+1*	0	1
4.	Assistant	3	3	0	3
5.	Junior Assistant	2	2	0	-
6.	Typist	4	-	4	-
7.	Steno – typist	2	1	1	1
8.	Lab Technician	2	2	0	-
9.	Lab Assistant	1	1	0	-
10.	Driver	2	2	-	-
11.	Assistant Engineer	1	1	-	-
	Total	21	16	5	-
Technical and Supporting Staff					
12	Skipper	1	1	0	-
13	Boson	1	1	0	-
14	Engine Driver	1	1	0	-
15	Mechanic Grade I (Mechanical Engg.)	1	1	0	-
16	Mechanic Grade I (Electronics and communication)	1	1	0	-
17	Mechanic Grade II (Marine Diesel Mechanic)	2	2	0	-
18	Turner	2	2	0	-

19	Fitter	2	2	0	-
20	Welder	2	2	0	-
21	Deck-hand	3	2	1	-
22	Lab. Technician	4	4	0	2
23	Lab. Assistant	4	4	0	2
24	Fishermen / Fish Processing Technician	15	11	4	-
25	Drivers	2	2	0	-
26	Farm Manager	2	0	2	1
27	Farm/ Hatchery Technician	2	2	0	-
28	Hatchery Manager	2	2	0	-
29	Farm / Hatchery Supervisors	6	6	0	-
30	Electrician	1	1	0	1
31	Plumber	1	1	0	1
32	Helper	4	2	2	-
33	Caretakers	4	4	0	-
34	Cook	2	1	1	-
35	Sweeper cum scavenger	4	4	0	-
36	Security	10	10	0	20
Total		79	69	10	
Total Non-Teaching Staff (Administrative Staff + Technical and Supporting Staff)		100	85	15	There is no standard recommendation for technical and supporting staffs
*Engaged on contractual basis in monthly consolidated pay					

The above mentioned technical and supporting staff are engaged in the overall day to day management of the institute. The aforesaid staff were also allocated to all the seven departments for managing the departmental activities.

DEPARTMENT-WISE STATUS OF TECHNICAL AND SUPPORTING STAFF:

S.No	Name of the Department	Staff	Staff in position
1.	Department of Aquaculture	Lab technician	1
		Lab Attendant	1
2.	Department of Aquatic Animal Health Management	Lab Technician	1
		Lab Attendant	1
3.	Department of Fish Processing Technology	Lab Technician	1
		Equipment Engineer	1
		Lab Attendant	1
4.	Department of Fisheries Resource Management	Lab Technician	1
		Lab Attendant	1
5.	Department of Aquatic Environment Management	Lab Technician	1
		Lab Attendant	1
		Assistant	1
6.	Department of Fishing Technology and Fisheries Engineering	Technician	1
7.	Department of Fisheries Extension, Economics and Statistics	Attendant	1

6.4.4. CLASSROOMS AND LABORATORIES:

There are **six SMART classrooms** each with a capacity to accommodate 60 students per batch of the UG degree programme. For UG degree programme, in addition to the dedicated **UG laboratories in all the seven departments**, there are other advanced laboratories through which students are being taught advance technologies of their respective departments.

A. SMART UG CLASS ROOMS:

Batch	Area	Seating Capacity	Facilities
I B.F.Sc	910 Sq. Feet	65	LCD projector
II B.F.Sc	910 Sq. Feet	65	Smart board
III B.F.Sc	910 Sq. Feet	65	CCTV surveillance
IV B.F.Sc	910 Sq. Feet	65	Green board Podium Window screen Wi-fi



B. UG LABS- GENERAL SPECIFICATIONS:

S,No	Department	Area	Seating Capacity	Facilities
1	Aquaculture	1156 Sq. Feet	40	Granite top tables – 10 Nos Lab stools- 40 Nos Sink & water tub – 3 Nos Working platform- 68 feet Green board Wi-fi
2	Fisheries Resource Management	1156 Sq. Feet	40	
3	Aquatic Environment Management	1156 Sq. Feet	40	
4	Fish Processing Technology	1156 Sq. Feet	40	
5	Fishing Technology and Fisheries Engineering	1156 Sq. Feet	40	
6	Aquatic Animal Health Management	2312 Sq.feet	65	Working platform- 136 feet Wi-fi Green board
7	Fisheries Extension, Economics and Statistics	1156 Sq.feet	40	Air-conditioned Computer Lab with internet enabled 40 desktops

DEPARTMENT-WISE LABORATORIES AND EQUIPMENTS:**1. DEPARTMENT OF AQUACULTURE**

Sl. No	Name of the Lab	Equipments / Facilities Available
1.	UG Laboratory	The under graduate laboratory of Department of Aquaculture is equipped with all the equipments for conducting practical classes for the B.F.Sc students. The total laboratory space is 800 square feet. The laboratory is having 10 Nos. of lab tables and 40 lab stools. Beside the laboratory is having the following equipments. • Shaking Incubator • Shaker • Magnetic stirrer • Digital pH Meter • Multiparameter Water analyzer • Water bath • Mini spin • Vortex • Mixer • Centrifuge • Weighing balance • Binocular microscope • Distillation unit • Stereo zoom microscope
Advanced labs in Department of Aquaculture:		
2.	Fish Nutrition Laboratory	The fish nutrition laboratory is having an area of 150 m ² and is equipped with all equipment required for proximate analysis of fish feed. The following are the equipments

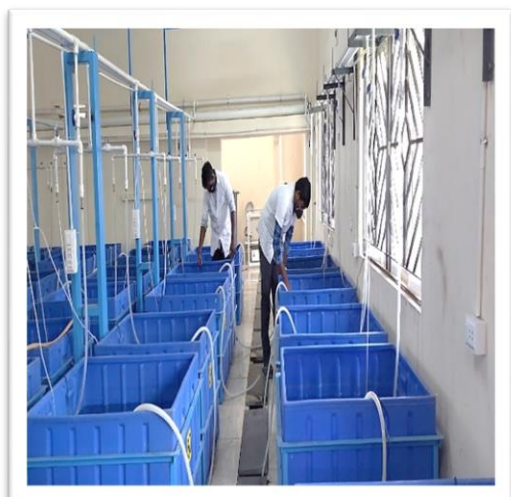
		available in the laboratory. The lab is also having pelletizer which is able to produce quality sinking feed. • Fat estimation unit • Kjeldahl Unit • Muffle Furnace • Fiber Analyzer • Pelletizer • Grinder • Flame photometer
3.	Water Quality Analysis Laboratory	Aquaculture water quality testing laboratory is functioning under Department of Aquaculture at 320 square feet area. This laboratory consists of the equipments such as pH meter, Spectrophotometer, electronic weighing balance. The main function of this laboratory is to analyse the commercial water and soil samples received from aquaculture farmer's fields on cost basis. Advisory services will be given to farmers, based on the results. The minimum package for analysing pH, Alkalinity, salinity, ammonia and hardness of one water sample is Rs. 150/- . Apart from this, other water and soil quality parameters such as calcium, magnesium, potassium, nitrite, nitrate, phosphate, available nutrients, water holding capacity etc. are analysed on charge basis.
4.	Feed Formulation and Production Laboratory	Pelletizer Mixer Autoclave for cooking
5.	Wet Laboratory	The wet laboratory for UG is being developed in 1000 sq.ft area. Currently experimental unit with a total of 18 tanks (9 tanks -50 lit capacity and 9 tanks -20 lit capacity) with steel stand was developed for UG student.
6.	Microbiology And Molecular (PCR) Diagnostic Laboratory	The laboratory is having an area of 150 m² and is equipped with all equipment required for microbial analysis. The following are the equipments available in the laboratory. • Colony counter • Trinocular microscope • Laminar flow chamber • Incubator • Vacuum Pump • Hot air oven • Autoclave • Pocket PCR Machine The laboratory also analyze shrimp samples for major diseases WSSV, TSV, EMS and EHP received from farmers using state of art Pocket PCR Machine and the results can be observed in 30 min.



Fish Nutrition Lab



PCR Lab



Wet Lab



UG Lab

2. DEPARTMENT OF FISH PROCESSING TECHNOLOGY

S. No.	Name of the unit	Equipments/Facilities
1.	Seafood Chemistry and Biochemistry Laboratory	Seafood chemistry and biochemistry testing laboratory is functioning under Department of Fish Processing Technology at 320 square feet area. The under graduate laboratory of Department of Fish Processing Technology is equipped with all the equipments for conducting practical classes for the B.F.Sc students. The total laboratory space is 800 square feet. The laboratory is having 10 Nos. of lab tables and 40 lab stools. Beside the laboratory is having the following equipments: • Rotary Flash Evaporator • Gel Electrophoresis Unit • Protein Analyser (Kel Plus) • Fat Analyser (Socs Plus) • Fibre Analyser (Fibra Plus) • Moisture Analyser (Hot Air Oven) • Ash Analyser (Muffle furnace) • Deep Freezer • Centrifuge • Over Head Stirrer • pH Meter • Refrigerator • Weighing Balance • Magnetic stirrer • Water Bath • Shaking Incubator • Homogenizer • Heating Mantle • 19. Hot Plate



Seafood Chemistry and Biochemistry Lab

2.	Fish Products Research and Quality Testing Laboratory	Fish Products Research and Quality Testing laboratory is having an area of 150 sq.m meter and is equipped with the following equipments: • Gas chromatography – ECD & FID detector • Double block gradient PCR • Gel documentation system • HPLC with UV & RF detector • UV-Visible spectrophotometer • Solvent filtration unit • Sonicator • Rotary evaporator • Bomb Calorimeter • Refrigerator
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Fish Products Research and Quality Testing Lab

3.	Post-Harvest Research and Incubation Centre	The Post-Harvest Research and Incubation Centre being developed in 1000 sq.f area. The following are the equipment available in the laboratory • Water Spray Retort • Steam Cooking System • Twin – Screw Extruder • Portable Solar Drying Unit • Flake Ice Machine • Grill Oven • Pasta Maker • Pulveriser • Baking Oven
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		• Micro Wave Oven • Smoking Kiln • Hot Air Cabinet Drier • Batch Coder • Solar Drier • Heat Band Sealer • High Pressure Sealing Machine • Foot Operated Sealing Machine • Bottle Sealing Machine • Tray Packing Machine • Vacuum Packaging Machine • Automatic Pickle Packing Machine • Carton Strapping Machine • Can Seamer • Cold Store (-18 °C) • Chill Room (4 °C) • Refrigeration Unit • Deep Freezer • Pre-Processing Unit • Processing Unit • Large scale Weighing Balance • RO Plant • Fish meat separator • Nitrogen flushing machine • Double side can seamer • Ohmic heater • Small scale weighing machine • Manual batch printing machine • 3 HP compressor unit
 Post-Harvest Research and Incubation Centre		
4.	Solar Tunnel Drying unit	This unit is being used for demonstration and research purpose to the students. It is being also utilized by the entrepreneurs.



Solar Tunnel Dryer

5.	Fish Techno Park (FTP)	FTP is a Seafood knowledge highway to disseminate the importance and nutritive value of fish and to provide fish-based products to students and general public
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Fish Techno Park

6.	Kayalagam	A Retail Outlet is being used to enhance the marketing skills of Students.
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Kayalagam

3. DEPARTMENT OF AQUATIC ENVIRONMENT MANAGEMENT

Sl. No	Name of the Lab	Equipments / facilities available
1.	UG Laboratory	The under graduate laboratory of Department of Aquatic Environment Management is equipped with all the equipments for conducting practical classes for the B.F.Sc students. The total laboratory space is 800 square feet. The laboratory is having 7 Nos. of lab tables and 40 lab stools. The lists of strains maintained at algal culture facility are ○ Spirulina ○ Chlorella ○ Scenedesmus ○ Chroococcus
		
Water Quality Testing Laboratory		Algal Culture Unit
2.	Water Quality Testing Laboratory	Water quality testing laboratory is functioning under Department of Aquatic Environment Management at 320 square feet area. This laboratory consists of the equipments such as pH meter, Spectrophotometer, electronic weighing balance. The main function of this laboratory is to analyse the commercial water and soil samples received from aquaculture farmer's fields on cost basis. Advisory services will be given to farmers, based on the results. The minimum package for analysing pH, Alkalinity, salinity, ammonia and hardness of one water sample is Rs. 150/- . Apart from this, other water and soil quality parameters such as calcium, magnesium, potassium, nitrite, nitrate, phosphate, available nutrients, water holding capacity etc. are analysed on charge basis. The list of equipments available in Aquaculture Water Quality Testing Laboratory are 1. Spectrophotometer 2. pH meter 3. EC meter 4. Water bath



Flame Photometer- UG Lab



PG Laboratory

		5. Heating mantle 6. Hot air Oven 7. Binocular Microscope 8. Distillation unit
3.	PG Laboratory	1. UV –Vis Spectrophotometer 2. Flame photometer 3. Automatic weather station (mini unit) 4. BOD incubator 5. Digital microscope 6. ORP meter 7. TDS meter 8. Algal culture unit 9. Water bath 10. Hot plate 11. Multiparameter analyser 12. Anemometer 13. Barometer 14. Psychrometer 15. Water sampler 16. Sediment sampler

4. DEPARTMENT OF FISHERIES RESOURCE MANAGEMENT

UG Laboratory – 1

1. Dissection Microscope
2. Compound Microscope
3. Trinocular Microscope
4. Distillation unit
5. Refractometer
6. Thermometer
7. Digital pH Meter
8. Deep Freezer
9. Fridge
10. FRP Trays
11. Hot Water Bath
12. Microtome
13. Tissue Floatation Batch

14. Heating mantle
15. Portable Electronic Balance
16. Mini Centrifuge
17. Gel Electrophoresis Unit
18. Computer system installed with Software: Primer V7 (Biodiversity and stock assessment software)



UG Laboratory



PG- Laboratory

Museum

The Department of Fisheries Resource Management is maintaining a Fisheries Museum with an area of 2200 sq. ft. in which about 300 finfish and shellfish specimens and shells of 400 species of gastropods and bivalves are in display. The details are furnished below

Sl.No.	Particulars	Qty (Nos.)	Remarks
FINFISH MUSEUM			
1.	College Museum	1	2200 sq. ft. area
2.	Specimens display rack	11	Specimens display
3.	Finfish specimens	300	Preserved in jars
4.	Chart display boards	24	Wall mounted
SHELLFISH MUSEUM			
1	Specimens display wooden rack	4	Galleries
2	Acrylic L Stand - 12 x 6 for shell fish display	100	Bivalves; Gastropods

3	Gastropod – Gallery A – 6ftx4ft	84 varieties	400 nos.
4	Gastropod – Gallery A – 6ftx4ft	90 varieties	400 nos.
5	Bivalve – Gallery A – 6ftx4ft	82 varieties	400 nos.
6	Bivalve – Gallery B – 6ftx4ft	113 varieties	400 nos.



5. DEPARTMENT OF AQUATIC ANIMAL HEALTH MANAGEMENT

Sl. No	Name of the Lab	Equipments / facilities available
1.	UG Laboratory	Facilities for teaching through conventional methods and ICT tools



Molecular biology Laboratory

2.	Molecular biology laboratory	The lab houses advanced equipments for molecular diagnosis of diseases. The following equipments are available in the lab • PCR Thermal Cycler • Real-time PCR Thermal Cycler • Spectrophotometer • Deep Freezers • Refrigerated Centrifuge • Gel Documentation Unit • UV Trans illuminator • Agarose Gel Electrophoresis
3.	Immunology Laboratory	1. Fermentor 2. ELISA Reader 3. Freeze Dryer
4.	Cell culture Laboratory	Co₂ Incubator Laminar Air Flow Chamber Ultrasonic Processor
5.	Water quality analysis Laboratory	Spectrophotometer Distillation Unit Ice Flaker



Water quality laboratory

6.	Histology Lab	Microscope
7.	Wet lab- Fish rearing and challenge study facility	Wet lab is provided with aquarium and aeration system to carry out the fish rearing and pathogen challenge studies. The laboratory is being used for the demonstration of the sample collection from fish, dissection, conduct of trials in fish models for the research projects and students research work



Histology Laboratory



Wet lab

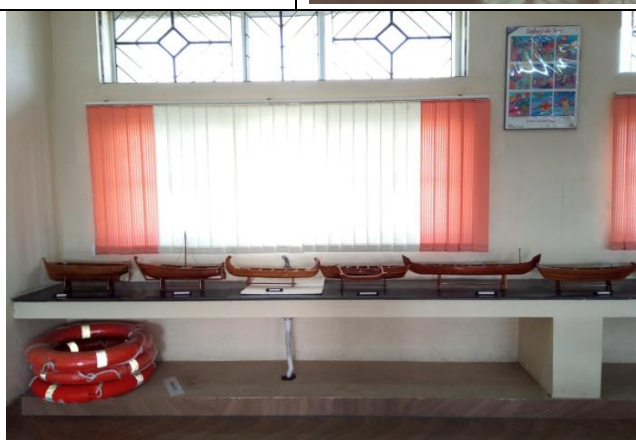
8.	Microbiology Laboratory	This laboratory is housed with the equipments required for the demonstration during classes and for the conduct of the research for the students. The equipment available in the lab include • Incubator • Digital pH meter • Serological water bath • Autoclave • Orbital shaker • Vortex mixer • Laminar air flow chamber • Microwave oven • Hot air plate • Hot air oven • Muffle furnace • Microscopes 
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6. DEPARTMENT OF FISHING TECHNOLOGY AND FISHERIES ENGINEERING

Sl.No	Name of the Lab	Equipments / facilities available
1	Fishing Craft Laboratory	I. Fishing craft models 1. Trawler 2. Gillnetter 3. Purse Seiner 4. Long Liner 5. Squid Jigger 6. Gujarat Wahan 7. Dugout Canoe 8. Rampani Boat 9. Plank Built Boat 10. Catamaran 11. Boat Catamaran 12. Coracle 13. Tuticorin Boat 14. Boat Canoe 15. Masula Boat 16. Bar Boat 17. Flat Bottom Boat 18. Bombaymachwa



2.	Navigation and Seamanship Laboratory	1. Life Jacket 2. Life Buoy 3. Globe 4. Navigational Flags 5. Navigational Lights 6. Navigational Charts 7. Navigational Day Shapes 8. Chart Reading Tools 9. Magnetic Compass 10. Marine Sextant 11. Azimuth Mirror 12. GPS 13. Echo Sounder 14. Chart Reading Tools 
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Fishing Technology & Fisheries Engineering Lab

3.	Fishing Gear Laboratory	Fishing Gear Models 1. Trawl Net 2. Gill Net 3. Long Line 4. Traps/Pots 5. Trammel Net 6. Shore Seine 7. Cast Net 8. Traditional Gears 9. Different types of Knots 10. Different types of Splices
4.	Fishing Gear Mending Hall	1. Net Braiding Stand (3 Nos.)



7. DEPARTMENT OF FISHERIES EXTENSION, ECONOMICS AND STATISTICS

The department has the following facilities to achieve its Objectives.

- To serve as an interface between farmers and the institute.
- To serve as single window service delivery center for the public.
- To create database on the aquaculture and fisheries profile of Northern districts of Tamil Nadu

The centre serves as effective platform in educating the department's UG courses especially to understand the lab to land gap.

(a) COMPUTER LAB:



Thirty five numbers of desktop computers for providing hands-on training to the students especially during the practical hours of Information and Communication Technology (FS-118) Course.

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING:

Apart from the main campus and dedicated UG laboratories (as shown 6.4.4) in it, the institute has off campus facilities and other constituent units of the University, in and around 50 kms from the college. Based on the subjects the students learn, they are being regularly taken to the aforesaid places for exposure and field level experience. All the departments conduct the regular practical classes for each course as per the course curriculum of the ICAR. In addition, field exposure is provided through field visits to nearby hatcheries, farm ponds, reservoirs, etc specifically to ensure the exposure on the various farming practises and on the systems developed to carry out aquaculture. Practicals are conducted in batches, in order to provide more exposure to individual student following the 'learning by doing' principle. The Department of Aquaculture has instructional farm centres located at distinct parts of the region and has various facilities for the different aquaculture practises and the students are regularly taken to the centres for gaining firsthand knowledge in the subject. The instructional centres are ARFF (Advanced Research Farm Facility) located at Madhavaram contributing to research in commercially important freshwater species, ARTP (Aquatic Rainbow Technology Park) located at Madhavaram and PRFF (Pulicat Research Farm Facility) located in the vicinity close to the second largest brackishwater lake Pulicat in the country for research in brackish water species.

OFF CAMPUS FACILITIES:

I. ADVANCED RESEARCH FARM FACILITY, MADHAVARAM:

- Outstanding facility of Dr. M.G.R. Fisheries College and Research Institute, Ponneri.
- Crowned with major advanced culture systems and technologies
- R & D activities in freshwater in major aquaculture species
- Central and State Govt. funding agencies projects are executed
- Strong institutional collaboration for product testing

THRUST AREAS

- Aquaponics- **Nutrient Film Technique (NFT)** and **DeepWater Culture (DWC)**.
- Cost effective feed formulations for broodstock (commercially important ornamental fish)
- Live food enrichment for larval rearing (edible fish/ egg layer ornamental fish)
- Shelf storage studies of preserved live foods for larval rearing
- Breeding and Propagation of edible loach
- Breeding and Propagation of murrel
- Standardising feed formulations for murrel and *Etroplus*
- Grow out of freshwater prawn (*M. rosenbergii*) in lined ponds
- Seaweeds as immunostimulants- feed trials in GIFT

SPECIES CULTURED

- GIFT Tilapia (*Oreochromis niloticus*)
- Pangasius (*Pangasianodon hypophthalmus*)
- Catla (*Catla catla*)
- Rohu (*Labeo rohita*)
- Mrigal (*Cirrhinus mrigala*)
- Common Carp (*Cyprinus carpio*)
- Koi Carp (*Cyprinus carpio*)
- Pearl Spot (*Etroplus suratensis*)
- *Penaeus vannamei*
- Gold Fish
- Live bearers (Guppy, sword tail, Platy)
- Cichlids
- *Notopterus notopterus* (Bronze feather back)

NURSERY RACEWAY FACILITY

Heterotrophic based nursery raceways of fifty tonnes capacity are used for the nursery rearing of shrimps and tilapia fishes. The advantages are:

- High stocking density with maximum yield
- High biosecured facility
- Intensive systems with high tech aeration
- Easily manageable system
- Indigenously designed drainage



HDPE LINED POND FACILITY

Intensive nursery and grow out ponds of 18 Nos. have been developed to undertake research along with the industrial stakeholders

- Central drainage accessed drainage facility
- Installed with different modules of surface aerators with bottom aeration
- Protected with bird & dog fencing structures

INCUBATION HUB

Seven ponds were allotted for incubation to the progressive shrimp and fish farmers and technology guidance is provided by TNJFU faculty. Remaining ponds are utilized for the student's research.



Student's Research ponds

AZOLLA CULTURE UNIT

Azolla is more environment friendly as it binds nitrogen directly from air. The azolla cultured here are used as feed for tilapia.



LIVE FEED CULTURE UNIT

To cater to the requirement of ornamental fish culture, live feeds such as Daphnia, Moina and copepods are being cultured in 24 FRP tanks of different capacity.



LAB FACILITIES AT ADVANCED RESEARCH FARM FACILITY (ARFF)

- a) Water quality testing lab
- b) Aquatic Microbiology lab
- c) Molecular PCR lab



Water quality Lab



Molecular Lab



Microbiology Lab



WET LABORATORY I

Facility is utilized for carrying out research works for students. Facility contains indoor unit housing FRP tanks with the RAS facility.



Industrial Wet Laboratory

Facility is utilized for carrying out research works for students. Facility contains indoor unit housing FRP tanks with the RAS facility.



MULTISPECIES ORNAMENTAL FISH HATCHERY

Unit facilitated with breeding and rearing of native and exotic ornamental fishes in the FRP tanks and aquariums.



Outer view

FRP Tanks



Aquarium Tanks

AQUAPONICS UNIT

The aquaponics unit with an area of 500 m² is established at ARFF, Madhavaram with 20 Nos. of biofilter troughs each with 120 square feet area and 2 fish tanks with 30 ton capacity each. There are two water flow through pump for each biofilters troughs connecting fish tanks and the aeration is supplied for fish tanks by 1 HP mini air blower.



Aquaponics outer view



Aquaponics inner view

Horticultural crops like Tomato, Cucumber, Snake guard, Bitter gourd, Ladies finger, Broad beans and greens are reared in 20 Nos. of biofilter troughs in Aquaponics Unit, ARFF, Madhavaram along with GIFT Tilapia (in two tanks of 30 ton capacity) in RAS based system.



Horticulture crops at Aquaponics unit



Tilapia culture pond at Aquaponics unit

Biofloc Photobioreactor Unit

The unit is demonstrative model for production of Biofloc using photobioreactor. It consist of photobioreactor unit and outdoor raceway for culture of biofloc.



Photobioreactor unit



Biofloc raceway tanks



Seabass RAS Facility



Sea Bass culture tanks facilitated with the RAS



Sea bass filtration unit

TECHNOLOGIES DEVELOPED FOR DISSEMINATION:

1. Aquaponics Technology for the GIFT Tilapia culture has been developed
2. Culture of *Pangasianodon hypophthalmus* in lined ponds
3. Intensive nursery rearing of *P. vannamei* in indoor raceway system
4. Biofloc driven intensive nursery rearing technology for GIFT tilapia (*Oreochromis niloticus*)
5. Azolla as feed supplement to culture of GIFT Tilapia
6. Bioremediation of distillery effluent using Biofloc technology
7. Breeding and propagation of native ornamental fish species (*Dawkinsia rohani*, *D. filamentosa*, *Sahydriya denisonii*, *Danio dangila*, *Puntius sophore*, *P. conchonius*)
8. Mass Culture of Rotifers and Cladocerans in Indoor Systems
9. Mass culture of copepod, *Thermocyclops hyalinus* in Indoor Systems
10. Standardization of Breeding for commercially viable Cichlids (Jewel fish)
11. Breeding and propagation of *Etroplus suratensis* in freshwater and brackishwater systems (Indoor and Outdoors)

II. AQUATIC RAINBOW TECHNOLOGY PARK (ARTP), MADHAVARAM



1. HATCHERY SYSTEM (MULTI SPECIES ORNAMENTAL FISH HATCHERY)

This facility consists of 10 mini hatchery units with all the facilities including RAS system to breed ornamental fishes. Each unit has 20 FRP and 10 glass tanks of the following dimensions with central drainage system.

- a) 80L = 10 nos (glass tank)
- b) 600 L = 09 Nos
- c) 1000 L = 11 Nos



Hatcheries with the RAS facility



Indoor hatchery

2. NURSERY SYSTEM (HETEROTROPHIC BASED INDOOR RACEWAYS)



Indoor raceway



Indoor Nursery raceway system

This facility houses 10 Raceway units attached to RAS system. Each unit comprises of two tanks with each tank capacity of 6 x 2 x 1.15 m (13 ton capacity) with air lift pumps operated by blowers (2HP) which ensure a running water system and zero water exchange.

3. GROW-OUT SYSTEM (HETEROTROPHIC BASED OUTDOOR RACEWAYS)



This facility houses 8 Raceway units with RAS system. Each unit comprises of four tanks with each tank capacity of 12 x 2 x 1.15 m (27 ton capacity) with air lift pumps operated by blowers 3HP) which ensure a running water system and zero water exchange.

4.LIVE FEED CULTURE SECTION:

Live feed culture facility incorporates a number of small tanks (32 nos.) of all sizes to grow Rotifers, Cyclops, Moina and all other such live feed species. Adequate lighting, filled water and continuous aeration are provided. Size of this building is 208 m². This is maintained by TNJFU and produced live feed is selling to the farmers in and around the facility on unit cost basis.



Live feed unit



Live feed culture tanks

5. Quarantine Unit:

The unit is facilitated with the Aquarium tanks with separate inlet and filters. The unit is designed to quarantine the new fish stock and to treat the diseased stock. The unit is essential to avoid the spread of parasite, bacteria and virus to the other stock. Currently the system is utilized by the incubatees of ARTP.



6. Packing Unit:

Packing unit is facilitated with the cement tanks attached to the re-circulatory unit. The unit is utilized by ARTP incubatees for the packing of the fishes before shipment.



7. ADMINISTRATIVE BUILDING CUM LABORATORY:

It consists of two floors of 300 m² each. The ground floor has a set of laboratories includes Water Quality Laboratory, Fish Microbiology, Fish Pathology laboratory and training hall for the research and development on various aspects. First floor is the administrative office to control ARTP and conference hall.

EQUIPMENT AVAILABLE IN WATER QUALITY LABORATORY:

1. Spectrophotometer
2. Refractometer
3. TDS meter
4. pH meter
5. Top pan balance
6. Chemical balance
7. Thermometer
8. Titration units (including pipettes, burettes, flasks, beakers etc.)

EQUIPMENT AVAILABLE IN MICROBIOLOGY LABORATORY:

1. Refrigerator (-20⁰C)
2. Oven
3. BOD Incubator
4. Horizontal Laminar Flow

5. Trinocular Microscope
6. Stereozoom Microscope
7. Shaker
8. Hot plate
9. Water Bath

EQUIPMENT AVAILABLE IN FISH PATHOLOGY LABORATORY:

1. Autoclave
2. BOD vertical incubator
3. Refrigerator (4°C)
4. Centrifuge
5. pH meter
6. Hot plate stirrer
7. Water double distillation unit
8. Orbital shaker
9. Vacuum pump set

III. PULICAT RESEARCH FIELD FACILITY, PAZHAYERKADU

Pulicat Research Field Facility (PRFF), Pulicat an Off campus facility of Tamil Nadu Dr.M.G.R. Fisheries College and Research Institute, Ponneri was inaugurated on 2nd January 2015 realizing the importance of Pulicat Lake which is bestowed with enormous potential for brackish water species and in order to cater the needs of fisherfolk and self-help groups in and around Pulicat lake. It is spread within an area of 0.75 acres and major research and developmental works are being operated at this centre. Many P.G and Ph.D scholars are doing their research works in the relevant areas from this centre. This centre has many advanced culture system facilities such as RAS and lined ponds for the intensive stocking and rearing of brackish water species. The major thrust areas of this centre are induced breeding of Pearl spot in large scale using lined ponds, RAS and cage based pearl spot culture and Larval rearing of pearl spot in indoor and outdoor hatcheries.



1. SOIL & WATER QUALITY LAB:

The Soil water quality lab was established in an area of 32 square meters and equipped with following equipment:

1. BOD incubator
2. Deep freezer
3. Hot air oven
4. Muffle furnace
5. UV spectrophotometer
6. Distillation Unit
7. Digital pH meter
8. Weighing balance
9. Refractometer
10. Soil pH meter
11. Stabilizer
12. DO meter with accessories
13. Multiparameter Water analysis kit with Recording facilities
14. Refrigerator



2.MICROBIOLOGY LAB:

The Microbiology Lab was established in an area of 19.32 square meters and equipped with following equipment:

1. Biological incubator
2. Laminar flow chamber
3. Hot air oven
4. Hot plate
5. Microscope
6. Magnetic stirrer
7. Precision balance
8. Centrifuge
9. Orbital shaker
10. Vacuum pump
11. Air conditioner
12. Serological Water bath
13. Micropipettes
14. Vortex mixture



3.OUTDOOR HATCHERY:

A green shade housing facility with an area of 90 m² (6 x 15.5 m) was constructed in PRFF, Pazhaverkadu campus to accommodate 20 nos. of FRP tanks with aeration facility (3HP blower).

The details of FRP tanks are as given below:

- 2.4 ton capacity – 12 Nos.
- 0.6 ton – 8 nos.



4.INDOOR HATCHERY:

The indoor hatchery is equipped with following facilities

- 12 Nos. of 300 lit capacity FRP tanks with central drain facility with temperature and photo period control
- Two 4T capacity was used for breeding experiment.
- 24 nos. of glass tanks- first quality (90L) with aeration facility was also established for conducting feed trials



5. LINED PONDS

Three numbers of lined ponds were constructed with central drainage facility. Two of the ponds with dimension of 8x10 m and one pond with dimension of 22.4x10 m were constructed in PRFF Pazhaverkadu for conducting mass production of pearl spot.



6. RAS (RECIRCULATING AQUACULTURE SYSTEM)

Eight numbers of 1T FRP tank was provided with two numbers of biofilters (capacity of 300 grams of feed) with two numbers of 0.5 HP flow pump for RAS system.



7. MODERNIZED TREATMENT SYSTEM FOR TREATING SOURCE WATER

For treatment of water used for experiments the following facilities are established

- 5T tank – 1 No

- 10T tank – 1No
- Sand filter (10000 lit/ hour) – 2No.
- Cartridge filter – 6No.
- Dosage system – 2 Units
- 1 HP water pump
- 3 HP water pump
- 0.5 HP air blower



8. HDPE CAGES

A battery of 6 of floating cages (HDPE) each having a volume of 18 m³ (3x3x2m) are erected in Pulicat lake with anchor facility, bird's net and handrails.



All these centres are having very good infrastructure facilities for the purpose of teaching and research. About 60% of the teaching is being done through practical and hands-on training utilizing the lab facilities available in the department. Group research problems are also being given to the UG students in order to train them on the lab techniques. Field visits to fish landing centres, fish markets, museums, research institutes are being arranged regularly based on the course. Hands on demonstration are given using laboratory equipment, navigation equipment and seamanship appliances for both theory and practical classes. Central (ICAR institutes like ICAR-CIBA, ICAR-CMFRI etc.,) and State Government Institutional visits for students are also organized for getting practical exposure. Field visits to net mending yard, Boat building yard, fishing harbour, landing centre, and fishing villages are also being organized with students for gaining practical knowledge. Industrial visits to Fish processing plant

and Ice making plant are also organized with students for gaining practical knowledge in processing sector. Sea trips are arranged for hands on demonstration in the operation of trawl net, gill net, trammel net, long line and cast net. Group exercises are being given to the students to fabricate the fishing nets such as trawl net, gill net, trammel net, long line and cast net in the practical classes. Further, in the final year of UG degree programme, the students also undergo in-plant training on aquacultural activities and renowned fish processing industries wherein they receive the skills and training on the latest technologies in fish/shrimp farming and fish/shrimp processing.

6.4.6. SUPERVISION OF STUDENTS IN UG PROGRAMMES:

The Dean, Head of the institute supervises the faculty and student activities in the classrooms through internet enabled Closed-Circuit Television (CCTV). At present, there is dedicated CCTV cameras in all the four UG classrooms and also in the examination hall. With the help of this provision, the Dean ensures students and teachers time bound engagement in the class hours. Excluding the Dean, there are six Professors, 1 Associate professor, 19 Assistant Professors and 1 Assistant Professor (in contractual basis) working in the seven departments of the college and at present there are 220 UG students in the institute, thereby on an average there is a teaching faculty for every 8 UG students in the institute which is a sound learning environment and creates an effective monitoring platform for academic progress.

In addition to it, for every batch of UG students, three teaching faculty have been assigned as Student Coordinator (1 No.) and Counselor (2 Nos.) respectively. In addition to it, there is a dedicated counseling time (which is also mentioned in the academic time table) in which the aforesaid teaching faculty will appraise the students' learning progress more importantly get their feedback about the teachers and their teaching skills. This counseling session is helping a lot in boosting both the teaching and learning process in the college.

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS etc.):

The academic sessions of the college are being assessed with feedback from the students regarding teaching and through questionnaires. The academic section of the college assesses the feedback from the students regarding teaching and learning through questionnaire having set of tangible questions. Based on this, teaching performance and lacunae if any and learning difficulties are assessed in quantifiable terms. The feedback proforma are prepared in due consultation with the Dean of the college which are provided to the students. Academic section collects the feedback from last year students and their parents.

The In-Plant Training Co-ordinator collects the feedback from industries, farms, processing plants and employers of the students, while Department of Fisheries Extension, Economics and Statistics collects the feedback from farmers who have availed training at the College. Further, the Dean interacts with the students at regular interval for seeking feedback from the students. The Student's Placement and Career guidance cell functioning in the institute assesses the requirements of the employers and let the students as well as faculty know about the feedback of the employers during the campus interviews organized at the institute.

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAMME FOR LAST FIVE YEARS:

Name of the Degree	Actual student admitted in last five years							Attrition (%)						
	Y-1 (2014-15)	Y-2 (2015-16)	Y-3 (2016-17)	Y-4 (2017-18)	Y-5 (2018-19)	Y-6 (2019-20)	Y-7 (2020-21)	Y-1 (2014-15)	Y-2 (2015-16)	Y-3 (2016-17)	Y-4 (2017-18)	Y-5 (2018-19)	Y-6 (2019-20)	Y-7 (2020-21)
B.F.Sc.	20	42	59	63	64	67	45	-	0.02 (1 No)	-	0.08 (5 Nos)	-	0.06 (4 nos)	-

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY:

ICT has also become integral to the teaching-learning interaction, through such approaches as replacing chalkboards with power-point presentations on LCD projectors, LED television monitors etc. The college classrooms are well equipped with audio-visual aids and regular lectures are delivered through power point presentations. Educational videos, short films, etc are included in the teaching – learning programme to convey concept with clarity. The college has wi-fi internet connectivity for staff as well students in all department laboratories, classrooms as well as in the institute's library. Teaching through ICT tools is being followed for effective teaching.

CERTIFICATE

I, the Dean **Dr. B. Ahilan** 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
Dr. MGR FC & RI
Ponneri - 601 204.

**Signature of the Dean of the college
with Date & Seal**



TAMIL NADU Dr. J JAYALALITHAA FISHERIES UNIVERSITY

Self Study Report for Post Graduate
Degree Programme
(M.F.Sc in Aquaculture)

Submitted by

Dr. M.G.R Fisheries College and Research Institute
TH Road, Ponneri – 601 204
Tamil Nadu

6.4. SELF STUDY REPORT FOR THE POST GRADUATE DEGREE PROGRAMME - M.F.SC IN AQUACULTURE

6.4.1. BRIEF HISTORY OF THE M.F.SC IN AQUACULTURE DEGREE PROGRAMME:

Master of Fisheries Science (M.F.Sc) in Aquaculture is offered by the Department of Aquaculture at Dr. M.G.R Fisheries College and Research Institute, Ponneri. The Department is functioning with effect from 14.11.2014 to perform teaching, research and extension activities in aquaculture. The Department is equipped with faculty and facility to impart quality education, perform cutting edge research and provide efficient extension and advisory services to the fish farming community. Considering the importance of Master's Programme in Aquaculture and state-of-art infrastructure facilities of the Department, from the academic year 2016-17, M.F.Sc in Aquaculture programme is being offered by the Department with an intake capacity of four students per annum. Then on, the programme is offered following ICAR guidelines for the PG programme. The list of courses dealt in the degree programme is given below:

S.No	Course No	Title of the Course	Credit Hours
MAJOR COURSES			
1	AQC 501	Sustainable Aquaculture	2+1
2	AQC 502	Soil and Water Quality Management in Aquaculture	2+1
3	AQC 503	Nutrition and Feed Technology	2+1
4	AQC 504	Aquatic Animal Health Management	2+1
5	AQC 506	Seed Production and Hatchery Management of Shellfishes	1+1
6	AQC 509	Coastal Aquaculture	2+1
7	AQC 511	Larval Nutrition and Culture of Food Organisms	2+1
MINOR COURSES			
1	AQC 505	Seed Production and Hatchery Management of Finfishes	2+1
2	AQC 510	Freshwater Aquaculture	2+1
3	AQC 512	Aquaculture Engineering	2+1

6.4.2. FACULTY STRENGTH:

The faculty strength of Department of Aquaculture is shown in the below table:

Sl.No.	Name of the Post	Sanctioned strength	Staff in position	No. of Vacancy	Recommendations of V Deans' Committee
1.	Professor	1	1	0	1
2.	Associate	2	2	0	2
3.	Assistant	6	5	1	3
Total		9	8	1	6

6.4.3. TECHNICAL AND SUPPORTING STAFF:

The details of technical and supporting staff in the department are as follows:

S.No	Name of the Department	Staff	Staff in position
1.	Department of Aquaculture	Lab technician	1
		Lab Attendant	1
2	ARFF, Madhavaram	Farm Supervisor	1
		Fishermen	1
		Security	2
3	PRFF, Pazhaverkadu	Lab technician	1
		Fishermen	2
		Security	2

6.4.4. CLASSROOMS AND LABORATORIES:

No. of class rooms available for PG programme: Two (PG & Ph.D.) smart classroom with facilities to use ICT tools In addition to the labs, the Department has two instructional farm centres located at distinct parts of the region and has various facilities for the different aquaculture practises and the students are regularly taken to the centres for gaining first-hand knowledge in the subject. The instructional centres are ARFF (Advanced Research Farm Facility) located at Madhavaram contributing to research in commercially important freshwater species and PRFF (Pulicat Research Farm Facility) located in the vicinity close to the second largest Brackishwater lake (Pulicat) in the country for research in Brackishwater species.

MAIN CAMPUS FACILITIES:

1. AQUACULTURE WATER QUALITY TESTING LABORATORY

Aquaculture water quality testing laboratory is functioning under Department of Aquaculture at 320 square feet area. This laboratory consists of the equipments such as pH meter, Spectrophotometer, electronic weighing balance. The main function of this laboratory is to analyse the commercial water and soil samples received from aquaculture farmer's fields on cost basis. Advisory services will be given to farmers, based on the results. The minimum package for analysing pH, Alkalinity, salinity, ammonia and hardness of one water sample is Rs. 150/- . Apart from this, other water and soil quality parameters such as calcium, magnesium, potassium, nitrite, nitrate, phosphate, available nutrients, water holding capacity etc. are analysed on charge basis.

2.UG LABORATORY

The under graduate laboratory of Department of Aquaculture is equipped with all the equipments for conducting practical classes for the B.F.Sc students. The total laboratory space is 800 square feet. The laboratory is having 10 Nos. of lab tables and 40 lab stools. Beside the laboratory is having the following equipments.

- Shaking Incubator
- Shaker
- Magnetic stirrer

- Digital pH Meter
- Multiparameter Water analyzer
- Water bath
- Mini spin
- Vortex
- Mixer
- Centrifuge
- Weighing balance
- Binocular microscope
- Distillation unit
- Stereo zoom microscope



3. FISH NUTRITION LAB

The fish nutrition laboratory is having an area of 150 m² and is equipped with all equipment required for proximate analysis of fish feed. The following are the equipments available in the laboratory. The lab is also having pelletizer which is able to produce quality sinking feed.

- Fat estimation unit
- Kjeldahl Unit
- Muffle furnace
- Fiber estimation Unit
- Pelletizer
- Grinder
- Flame photometer



4. MICROBIOLOGY AND MOLECULAR (PCR) DIAGNOSTIC LAB



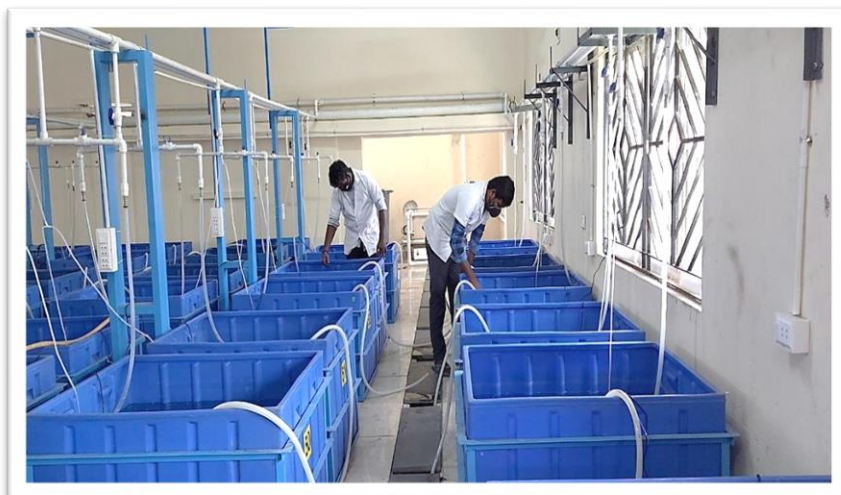
The laboratory is having an area of 150 m² and is equipped with all equipment required for microbial analysis. The following are the equipments available in the laboratory.

- Colony counter
- Trinocular microscope
- Laminar flow chamber
- Incubator
- Vacuum Pump
- Hot air oven
- Autoclave
- Pocket PCR Machine



The laboratory also analyze shrimp samples for major diseases WSSV, TSV, EMS and EHP received from farmers using state of art Pocket PCR Machine and the results can be observed in 30 min.

5. WET LABORATORY – AQUACULTURE (UG)



The wet laboratory for UG is being developed in 1000 sq.ft area. Currently experimental unit with a total of 18 tanks (9 tanks -50 lit capacity and 9 tanks -20 lit capacity) with steel stand was developed for UG student.



OFF CAMPUS FACILITIES:

I. ADVANCED RESEARCH FARM FACILITY, MADHAVARAM:

- Outstanding facility of Dr. M.G.R. Fisheries College and Research Institute, Ponneri.
- Crowned with major advanced culture systems and technologies
- R & D activities in freshwater in major aquaculture species
- Central and State Govt. funding agencies projects are executed
- Strong institutional collaboration for product testing

THRUST AREAS

- ✚ Aquaponics- **Nutrient Film Technique (NFT)** and **DeepWater Culture (DWC)**.
- ✚ Cost effective feed formulations for broodstock (commercially important ornamental fish)
- ✚ Live food enrichment for larval rearing (edible fish/ egg layer ornamental fish)
- ✚ Shelf storage studies of preserved live foods for larval rearing
- ✚ Breeding and Propagation of edible loach

- ✚ Breeding and Propagation of murrel
- ✚ Standardising feed formulations for murrel and *Etroplus*
- ✚ Grow out of freshwater prawn (*M.rosenbergii*) in lined ponds
- ✚ Seaweeds as immunostimulants- feed trials in GIFT

SPECIES CULTURED

- GIFT Tilapia (*Oreochromis niloticus*)
- Pangasius (*Pangasianodon hypophthalmus*)
- Catla (*Catla catla*)
- Rohu (*Labeo rohita*)
- Mrigal (*Cirrhinus mrigala*)
- Common Carp (*Cyprinus carpio*)
- Koi Carp (*Cyprinus carpio*)
- Pearl Spot (*Etroplus suratensis*)
- *Penaeus vannamei*
- Gold Fish
- Live bearers (Guppy, sword tail, Platy)
- Cichlids
- *Notopterus notopterus* (Bronze feather back)

NURSERY RACEWAY FACILITY

Heterotrophic based nursery raceways of fifty tonnes capacity are used for the nursery rearing of shrimps and tilapia fishes. The advantages are:

- High stocking density with maximum yield
- High biosecured facility
- Intensive systems with high tech aeration
- Easily manageable system
- Indigenously designed drainage



HDPE LINED POND FACILITY

Intensive nursery and grow out ponds of 18 Nos. have been developed to undertake research along with the industrial stakeholders

- Central drainage accessed drainage facility
- Installed with different modules of surface aerators with bottom aeration
- Protected with bird & dog fencing structures

INCUBATION HUB

Seven ponds were allotted for incubation to the progressive shrimp and fish farmers and technology guidance is provided by TNJFU faculty. Remaining ponds are utilized for the students research.



Lined Pond



Student research Pond

AZOLLA CULTURE UNIT

Azolla is more environment friendly as it bind nitrogen directly from air. The azolla cultured here are used as feed for tilapia.



WET LABORATORY I

Facility is utilized for carrying out research works for PG and Ph.D. students. Facility contains indoor unit housing FRP tanks with the RAS facility.



Wet Lab II

Facility is utilized for carrying out research works for PG and Ph.D. students.



LAB FACILITIES AT ADVANCED RESEARCH FARM FACILITY (ARFF)

- a) Water quality testing lab
- b) Aquatic Microbiology lab
- c) Molecular PCR lab



Water quality Lab



Molecular Lab



Microbiology Lab



Industrial Wet Laboratory

Facility is utilized for carrying out research works for PG and Ph.D. students. Facility contains indoor unit housing FRP tanks with the RAS facility.



MULTISPECIES ORNAMENTAL FISH HATCHERY

Unit facilitated with breeding and rearing of native and exotic ornamental fishes in the FRP tanks and aquariums.



Outer view



FRP Tanks



Aquarium Tanks

AQUAPONICS UNIT

The aquaponics unit with an area of 500 m² was established at ARFF, Madhavaram with 20 Nos. of biofilter troughs each with 120 square feet area and 2 fish tanks with 30 ton capacity each. There are two water flow through pump for each biofilters troughs connecting fish tanks and the aeration is supplied for fish tanks by 1 HP mini air blower.



Aquaponics outer view



Aquaponics inner view

Horticultural crops like Tomato, Cucumber, Snake guard, Bitter gourd, Ladies finger, Broad beans and greens are reared in 20 Nos. of biofilter troughs in Aquaponics Unit, ARFF, Madhavaram along with GIFT Tilapia (in two tanks of 30 ton capacity) in RAS based system. Horticulture crops grown at the facility are being regularly sold.



Horticulture crops at Aquaponics unit



Tilapia culture pond at Aquaponics unit



Biofloc Photobioreactor Unit

The unit is demonstrative model for production of Biofloc using photobioreactor. It consist of photobioreactor unit and outdoor raceway for culture of biofloc. Currently the unit is utilized by Ph.D. Scholar for research.



Photobioreactor unit



Biofloc raceway tanks



Seabass RAS Facility



Sea Bass culture tanks facilitated with the RAS



Sea bass filtration unit



PROJECT DETAILS:

S.No	Project Title	Funding Agency	Budget received (Rs. In lakhs)	Duration
01.	Healthy Shrimp and GIFT Tilapia production through Biofloc based farming system :Development of Technology and Standard Operating Procedures	DBT	57.93	2016 - 19
02.	Establishment of Demonstration unit of Azolla as Feed supplement of GIFT Tilapia	NFDB	3.017	2018 - 20
03.	Upscaling of biofloc production technology for developing eco feed for vannamei shrimp culture	NFDB	50.002	2018 - 20
04.	RAS culture of <i>P. vannamei</i> for doubling the farmers income	NFDB	24.08	2018 - 19

05.	Establishment of Re-circulatory Seabass Aquaculture Technology Park for doubling the income with low cost budgeting	NADP	350.00	2018 - 19
06	Hands on training cum demonstration on limited water usage aquaculture technologies	NADP	187.50	2020-21
07	Establishment of Fisheries demonstration unit at AIIRLIVAS	Govt. of Tamil Nadu	267.00	2020-23

TECHNOLOGIES DEVELOPED FOR DISSEMINATION:

1. Aquaponics Technology for the GIFT Tilapia culture has been developed
2. Culture of *Pangasianodon hypophthalmus* in lined ponds
3. Intensive nursery rearing of *P. vannamei* in indoor raceway system
4. Biofloc driven intensive nursery rearing technology for GIFT tilapia (*Oreochromis niloticus*)
5. Azolla as feed supplement to culture of GIFT Tilapia
6. Bioremediation of distillery effluent using Biofloc technology
7. Breeding and Propagation of native ornamental fish species (*Dawkinsia rohani*, *D. filamentosa*, *Sahydriya denisonii*, *Danio dangila*, *Puntius sophore*, *P. conchonius*)
8. Mass Culture of *Rotifers* and *Cladocerans* in Indoor Systems
9. Mass culture of copepod, *Thermocyclops hyalinus* in Indoor Systems
10. Standardization of Breeding for commercially viable Cichlids (Jewel fish)
11. Breeding and Propagation of *Etroplus suratensis* in freshwater and brackishwater systems (Indoor and Outdoors)

B. AQUATIC RAINBOW TECHNOLOGY PARK (ARTP), MADHAVARAM



1. HATCHERY SYSTEM (MULTI SPECIES ORNAMENTAL FISH HATCHERY)

This facility consists of 10 mini hatchery units with all the facilities including RAS system to breed ornamental fishes. Each unit has 20 FRP and 10 glass tanks of the following dimensions with central drainage system.

- a) 80L= 10 nos (glass tank)
- b) 600 L = 09 Nos
- c) 1000 L = 11 Nos



Hatcheries with the RAS facility



Indoor hatchery



Indoor hatchery

2. NURSERY SYSTEM (HETEROTROPHIC BASED INDOOR RACEWAYS)



Indoor raceway



Indoor Nursery raceway system

This facility houses 10 Raceway units attached to RAS system. Each unit comprises of two

tanks with each tank capacity of 6 x 2 x 1.15 m (13 ton capacity) with air lift pumps operated by blowers (2HP) which ensure a running water system and zero water exchange.

3.GROW-OUT SYSTEM (HETEROTROPHIC BASED OUTDOOR RACEWAYS)



This facility houses 08 Raceway units with RAS system. Each unit comprises of four tanks with each tank capacity of 12 x 2 x 1.15 m (27 ton capacity) with air lift pumps operated by blowers (3HP) which ensure a running water system and zero water exchange.

4.LIVE FEED CULTURE SECTION: Live feed culture facility incorporates a number of small tanks (32 nos.) of all sizes to grow Rotifers, Cyclops, Moina and all other such live feed species. Adequate lighting, filtered water and continuous aeration are provided. Size of this building is 208 m². This is maintained by TNJFU and produced live feed is selling to the farmers in and around the facility on unit cost basis.



Live feed unit



Live feed culture tanks

5. Quarantine Unit:

The unit is facilitated with the Aquarium tanks with separate inlet and filters. The unit is designed to quarantine the new fish stock and to treat the diseased stock. The unit is essential to avoid the spread of parasite, bacteria and virus to the other stock. Currently the system is utilized by the incubatees of ARTP.



6. Packing Unit:

Packing unit is facilitated with the cement tanks attached to the re-circulatory unit. The unit is utilized by ARTP incubatees for the packing of the fishes before shipment.



7. ADMINISTRATIVE BUILDING CUM LABORATORY:

It consists of two floors of 300 m² each. The ground floor has a set of laboratories includes Water Quality Laboratory, Fish Microbiology, Fish Pathology laboratory and training hall for the research and development on various aspects. First floor is the administrative office to control ARTP and conference hall.

EQUIPMENT IN WATER QUALITY LABORATORY:

1. Spectrophotometer
2. Refractometer
3. TDS meter
4. pH meter
5. Top pan balance
6. Chemical balance
7. Thermometer
8. Titration units (including pipettes, burettes, flasks, beakers etc.)

EQUIPMENT IN MICROBIOLOGY LABORATORY:

1. Refrigerator (-20⁰C)
2. Oven
3. BOD Incubator
4. Horizontal Laminar Flow
5. Trinocular Microscope
6. Stereozoom Microscope
7. Shaker
8. Hot plate
9. Water Bath

EQUIPMENT IN FISH PATHOLOGY LABORATORY:

1. Autoclave
2. BOD vertical incubator
3. Refrigerator (4⁰C)
4. Centrifuge
5. pH meter
6. Hot plate stirrer
7. Water double distillation unit
8. Orbital shaker
9. Vacuum pump set

C. PULICAT RESEARCH FIELD FACILITY, PAZHAYERKADU:

Pulicat Research Field Facility (PRFF), Pulicat an Off campus facility of Tamil Nadu Dr.M.G.R. Fisheries College and Research Institute, Ponneri was inaugurated on 2nd January 2015 realizing the importance of Pulicat Lake which is bestowed with enormous potential for brackish water species and in order to cater the needs of fisherfolk and self-help groups in and around Pulicat lake. It is spread within an area of 0.75 acres and major research and developmental works are being operated at this centre. Many P.G and Ph.D scholars are doing their research works in the relevant areas from this centre. This centre has many advanced culture system facilities such as RAS and lined ponds for the intensive stocking and rearing of brackish water species. The major thrust areas of this centre are induced breeding of Pearl spot in large scale using lined ponds, RAS and cage based pearl spot culture and Larval rearing of pearl spot in indoor and outdoor hatcheries.



1. SOIL & WATER QUALITY LABORATORY:

The Soil water quality lab was established in an area of 32 square meters and equipped with following equipments:

1. BOD incubator
2. Deep freezer
3. Hot air oven
4. Muffle furnace
5. UV spectrophotometer
6. Distillation Unit
7. Digital pH meter
8. Weighing balance
9. Refractometer
10. Soil pH meter
11. Stabilizer
12. DO meter with accessories
13. Multiparameter Water analysis kit with Recording facilities
14. Refrigerator



2. MICROBIOLOGY LABORATORY:

The Microbiology Lab was established in an area of 19.32 square meters and equipped with following equipments:

1. Biological incubator
2. Laminar flow chamber
3. Hot air oven
4. Hot plate
5. Microscope
6. Magnetic stirrer
7. Precision balance
8. Centrifuge
9. Orbital shaker
10. Vacuum pump
11. Air conditioner
12. Serological Water bath
13. Micropipettes
14. Vortex mixture



3. OUTDOOR HATCHERY:

A green shade housing facility with an area of 90 m² (6 x 15.5 m) was constructed in PRFF, Pazhaverkadu campus to accommodate 20 nos. of FRP tanks with aeration facility (3HP blower). The details of FRP tanks are as given below:

- 2.4 ton capacity – 12 Nos.
- 0.6 ton – 8 nos.



4. INDOOR HATCHERY:

The indoor hatchery is equipped with following facilities

- 12 Nos. of 300 lit capacity FRP tanks with central drain facility with temperature and photo period control
- Two 4T capacity was used for breeding experiment.
- 24 nos. of glass tanks- first quality (90L) with aeration facility was also established for conducting feed trials



5. LINED PONDS

Three numbers of ined ponds were constructed with central drainage facility. Two of the ponds with dimension of 8x10 m and one pond with dimension of 22.4x10 m were constructed in PRFF Pazhaverkadu for conducting mass production of pearl spot.



6. RAS (RECIRCULATING AQUACULTURE SYSTEM)

Eight numbers of 1T FRP tank was provided with two numbers of biofilters (capacity of 300 grams of feed) with two numbers of 0.5 HP flow pump for RAS system.



7. MODERNIZED TREATMENT SYSTEM FOR TREATING SOURCE WATER

For treatment of water used for experiments the following facilities were established

- 5T tank – 1 No
- 10T tank – 1No
- Sand filter (10000 lit/ hour) – 2No.
- Cartridge filter – 6No.
- Dosage system – 2 Units
- 1 HP water pump
- 3 HP water pump
- 0.5 HP air blower



8. HDPE CAGES

A battery of 6 of floating caged (HDPE) each having a volume of 18 m³ (3x3x2m) were erected in Pulicat lake with anchor facility, bird's net and handrails.



Completed Research Projects:

Sl.No.	Title of the Project	Year	PI	Funds (in Rs)	Funding Agency
1.	Farmed pearl spot (<i>Etroplus suratensis</i>) production as an alternative livelihood to promote brackish water aquaculture entrepreneurship for fishers of Pulicat lake	2016-18	Dr. S. Felix. Ph.D. Vice chancellor TNJFU, Nagapattinam	Rs. 211.00 lakhs	NADP

1. Research Projects:

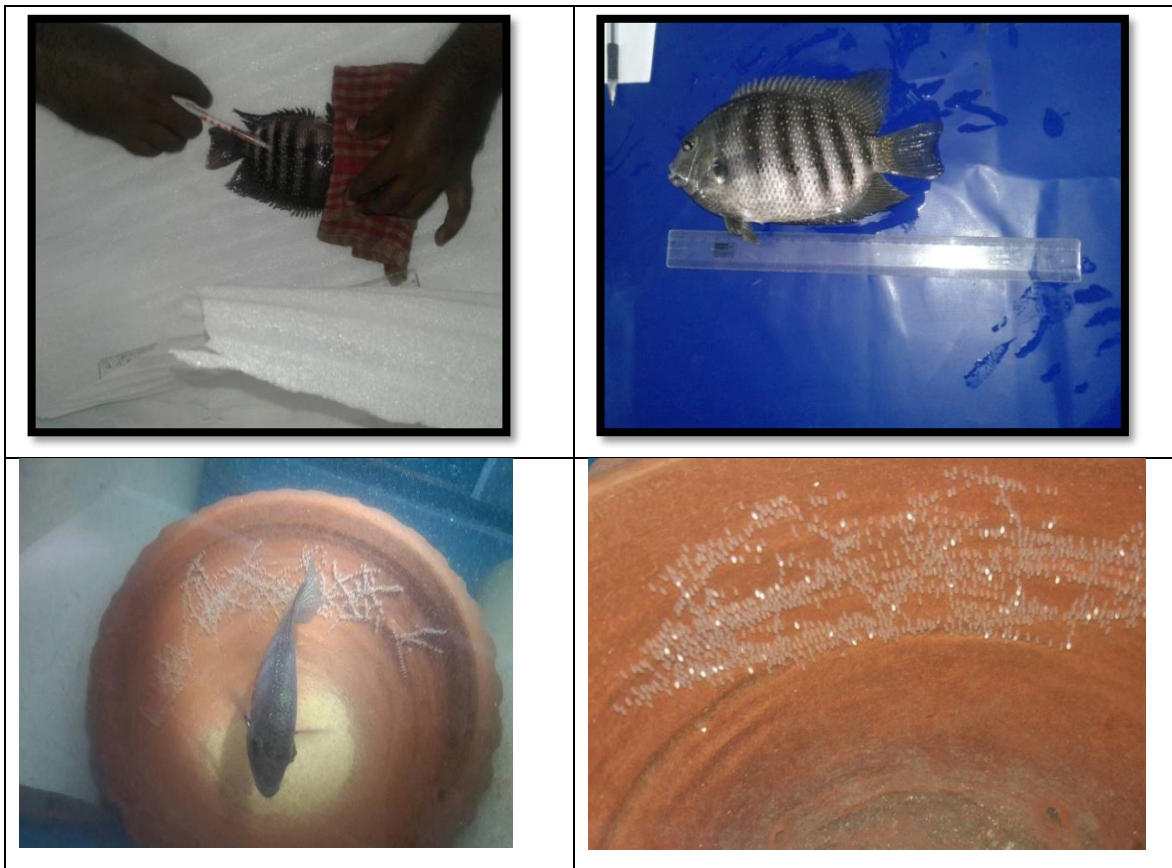
Sl.No.	Title of the Project	Year	PI	Funds (in Rs)	Funding Agency
1.	Establishment of demonstration units on Re-circulatory Aquaculture Systems for doubling the farmers income in Vannamei Shrimp culture	2018-19	Dr.B.Ahilan, Ph.D. Dean, Dr. M.G.R. FC&RI, Ponneri.	Rs.24.08 lakhs	NFDB

Technology developed:

Sl. No.	Name of the Technique/ Technology	Name of the staff involved	Status (Developed/ Released/ Transferred)	Salient features

1	Induced Breeding of Pearl spot by administration of HCG	Dr.S. Felix, T.L.S.Samuel Moses Dr. S.Selvaraj	Developed	Induced breeding of pearl spot was standardized by administering 1500 IU of HCG for fishes weighing more than 125 grams
2	Mass seed production of pearl spot was standardized in lined ponds in fresh water	Dr.S. Felix, T.L.S.Samuel Moses Dr. S.Selvaraj	Developed	Mass seed production of pearl spot was standardized by injection with 0.5 ml/Kg of WOVA FH in 100 m ² lined ponds with tiles as substrates (1500 Nos. of pearl spot seeds were produced)
3	Cage culture of pearl spot	Dr.S. Felix, T.L.S.Samuel Moses Dr. S.Selvaraj	Developed	Cage culture of pearl spot was developed in battery of 6 Nos. of cages each having area of 18m ²
4	Rearing of pearl spot in RAS System	Dr.S. Felix, T.L.S.Samuel Moses Dr. S.Selvaraj	Developed	Rearing of pearl spot in RAS system was standardized in 8 Nos. of FRP tanks each with 1 ton capacity





6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING:

The Department has two instructional farm centres located at distinct parts of the region and has various facilities for the different aquaculture practises and the students are regularly taken to the centres for gaining first-hand knowledge in the subject. The instructional centres are ARFF (Advanced Research Farm Facility) located at Madhavaram contributing to research in commercially important freshwater species, and PRFF (Pulicat Research Farm Facility) located in the vicinity close to the second largest brackishwater lake (Pulicat) in the country for research in brackishwater species. Both of these centres are having very good infrastructure facilities with well-equipped laboratories (Microbiology, Water Quality Analysis) for the purpose of teaching and research. Research works are allotted to the PG students based on the identified thrust areas.

6.4.6. SUPERVISION OF STUDENTS IN PG PROGRAMMES:

During the course work, PG students' academic progress is being monitored by PG batch coordinator in the rank of Professor & Head. In the second year (Research), progress of student's research is being monitored by the advisory committee comprising of Chairman and two advisors. The details of PG students since the inception of the programme in the Department is given below:

Completed

S.No	Batch	Reg. No of the Student	Name of the Student	Research Topic	Name and designation of the Chair/ Major Advisor
1	2016-17	MFP 16001	S.Ezhil mathi	Studies on the assessment of bio availability of crude protein and lipid from INSITU and EXSITU aerobic microbial floc in intensive nursery culture of <i>Penaeus vannamei</i> (Boone,1931)	Dr. S. Felix Former Vice Chancellor, TNJFU
2		MFP 16002	Naveen Raj	Effect of enriched live feed on growth survival and enzyme activity in early life stages of <i>Etroplus suratensis</i> (Bloch,1790)	Dr. S. Felix Former Vice Chancellor, TNJFU
3		MFP 16003	Pandi, M.	Captive breeding of <i>Dawkinsia rohani</i> (Rohan's Barb) and standardization of continuous culture techniques for mass production of copepod (<i>Thermo cyclops</i>)	Dr. S. Felix Former Vice Chancellor, TNJFU
4		MFP 16004	Yuvarajan,P.	Evaluation of the effect of aerobic microbial floc derived from distillery spent wash in the nursery intensive culture of GIFT Tilapia	Dr. S. Felix Former Vice Chancellor, TNJFU
5	2017-18	MFP 17010	Tamilarasu, A	Growth and immune enhancement of <i>Penaeus vannamei</i> fed with probiotics isolated from the biofloc system	Dr. S. Felix Former Vice Chancellor, TNJFU
6		MFP 17008	Rumisha Benedicto Christopher	Effects of replacement of soybean meal with sunflower meal and corn gluten meal in the diet of GIFT tilapia	Dr. B. Ahilan Dean Dr.M.G.R. FC&RI, Ponneri
7		MFP 17005	S. Bharathi	Optimization of protein – energy requirement for <i>Chanos chanos</i> (Forsskal, 1775) fingerlings using plant protein (soya bean meal and DDGS) and developing cost – effective feed	Dr. C.B.T. Rajagopalsamy Professor and Head

8		MFP 17006	Manikandan .K	Evaluation of dietary supplementation of amino acids and phytase in plant based diets for pacific white shrimp, <i>Penaeus vannamei</i>	Dr. N. Felix, Director, DIVA
9		MFP 17007	S. Prabhu	Studies on the assessment of nutrient retention and discharge in media filled aquaponics system of GIFT tilapia (<i>Oreochromis niloticus</i>)	Dr. S. Felix Former Vice Chancellor, TNJFU
10	2018-19	U-18-TN-03-003-MF002	Jacqueline Wino	Effect of Dietary Supplementation of biofloc powder on growth, digestive enzyme activity & resistance of <i>P. vannamei</i> in RAS	Dr. B. Ahilan Dean Dr.M.G.R. FC&RI, Ponneri
11		U-18-TN-03-003-MF003	Sumit Subhasharao Gaidhane	Influence of different plant protein sources on the growth performance of <i>Etroplus suratensis</i>	Dr. B. Ahilan Dean Dr.M.G.R. FC&RI, Ponneri

Ongoing

S.No	Batch	Reg. No of the Student	Name of the Student	Research Topic	Name and designation of the Chair/ Major Advisor
1	2019-20	U-19-TN-03-003-M-F-001	Joshna M.	Influence of herbal additives on the growth, survival and immunology of Pacific White Leg Shrimp (<i>Peneaus Vannamei</i>)	Dr. B. Ahilan Dean Dr.M.G.R. FC&RI, Ponneri
2		U-19-TN-03-003-M-F-002	Manimaran H.	Effect of dietary Butric acid Fumaric organic acid on growth, nutrient utilization and Immune enhancement in GIFT	Dr.P.Chidambaram Professor
3		U-19-TN-03-003-M-F-004	Vijay G.	Studies on the Performance of <i>L. vannamei</i> in indoor Recirculatory Aquaculture System with different stocking densities density	Dr. Cheryl Antony Professor and Head

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS ETC.):

The academic sessions of the college are being assessed with feedback from the students regarding teaching through questionnaires and student counseling by PG coordinator and advisory committee.

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAMME FOR LAST FIVE YEARS:

Name of the Degree Programme	Actual student admitted in 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. (Aquaculture)	04	05	03	03	04	0	0	0	0	0

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY:

Teaching through ICT tools is being followed for effective teaching by making use of the wi-fi campus facility and classroom environment. PG/Ph.D. students' advisory committee sometimes comprises of faculty from other constituent units (working outside the student's institute) of the University. Therefore, there is a monthly video conferencing among the advisory committee members to monitor the progress as well as to evaluate research credits of PG/Ph.D. programmes through online video conference mode

Certificate

I, the Dean **Dr. B. Ahilan** 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
Dr. MGR FC & RI
Ponneri - 601 204.

**Signature of the Dean of the college
with Date & Seal**



TAMIL NADU Dr. J JAYALALITHAA FISHERIES UNIVERSITY

Self-Study Report for Doctoral Programme
(Ph.D in Aquaculture)

Submitted by

**Dr. M.G.R Fisheries College and Research Institute
TH Road, Ponneri – 601 204
Tamil Nadu**

6.4. SELF STUDY REPORT FOR THE DOCTORAL PROGRAMME -Ph.D. IN AQUACULTURE

6.4.1. BRIEF HISTORY OF THE DOCTORAL PROGRAMME -Ph.D. IN AQUACULTURE:

Ph.D. Programme in Aquaculture is offered by the Department of Aquaculture at Dr. M.G.R Fisheries College and Research Institute, Ponneri. The Department is functioning with effect from 14.11.2014 to perform teaching, research and extension activities in aquaculture. The Department is equipped with faculty and facility to impart quality education, perform cutting edge research and provide efficient extension and advisory services to the fish farming community. Considering the importance of Doctoral Programme in Aquaculture and state-of-art infrastructure facilities of the Department, from the academic year 2016-17, Ph.D.in Aquaculture programme is being offered by the department with an intake capacity of four students per annum and the programme is offered following ICAR guidelines for the Ph.D. programme. The list of courses dealt in the degree programme is given below:

Ph.D. Courses

The following courses are being offered

Sl. No.	Course No.	Course Title	Credit Hours
1.	AQC 601	Advances in Aquaculture Production System	2+1
2.	AQC 602	Advances in Seed Production and Hatchery Management	2+1
3.	AQC 603	Aquaculture and Ecosystem Management	2+1
4.	AQC 604	Aquatic Animal Health Management and Quarantine	1+1
5.	AQC 605	Fish and Shellfish Physiology and Endocrinology	1+1
6.	AQC 606	Advances in Fish Genetics	2+1
7.	AQC 607	Intensive Farming Systems for Tilapia and Catfishes	1+1
8.	AQC 608	Aquaculture Development Planning and Management	1+1
9.	AQC 609	Applied Biotechnology	1+1

6.4.2. FACULTY STRENGTH:

The faculty strength of Department of Aquaculture is shown in the below table:

Sl.No.	Name of the Post	Sanctioned strength	Staff in position	No. of Vacancy	Recommendations of V Deans' Committee
1.	Professor	1	1	0	1
2.	Associate Professor	2	2	1	2
3.	Assistant Professor	6	3	1	3

6.4.3. TECHNICAL AND SUPPORTING STAFF:

On the basis of infrastructure facilities, Department of Aquaculture can be considered as the largest Department of the institute. The Department is having two instructional centres, ARFF (Advanced Research Farm Facility) located at Madhavaram contributing to research in commercially important freshwater species and PRFF (Pulicat Research Farm Facility) located in the vicinity close to the second largest brackish water lake Pulicat in the country for research in brackish water species. Hence, apart from the dedicated technical and supporting staff in the department, there are more supporting staff available in the instructional farm facilities. The details of technical and supporting staff in the department are as follows:

S.No	Name of the Department	Staff	Staff in position
1.	Department of Aquaculture	Lab technician	1
		Lab Attendant	1
2	ARFF, Madhavaram	Farm Supervisor	1
		Fishermen	1
		Security	2
3	PRFF, Pazhaverkadu	Lab technician	1
		Fishermen	2
		Security	2

6.4.4. CLASSROOMS AND LABORATORIES:

No. of class rooms available for Ph.D. programme: One smart classroom with facilities to use ICT tools.

The Department has two instructional farm centres located at distinct parts of the region and has various facilities for the different aquaculture practises and the students are regularly taken to the centres for gaining first-hand knowledge in the subject. The instructional centres are ARFF (Advanced Research Farm Facility) located at Madhavaram contributing to research in commercially important freshwater species and PRFF (Pulicat Research Farm Facility) located in the vicinity close to the second largest Brackish waterlake (Pulicat) in the country for research in Brackish water species.

MAIN CAMPUS FACILITIES:

1. AQUACULTURE WATER QUALITY TESTING LABORATORY

Aquaculture water quality testing laboratory is functioning under Department of Aquaculture at 320 square feet area. This laboratory consists of the equipment such as pH meter, Spectrophotometer, electronic weighing balance. The main function of this laboratory is to analyse the commercial water

and soil samples received from aquaculture farmer's fields on cost basis. Advisory services will be given to farmers, based on the results. The minimum package for analysing pH, Alkalinity, salinity, ammonia and hardness of one water sample is Rs. 150/- . Apart from this, other water and soil quality parameters such as calcium, magnesium, potassium, nitrite, nitrate, phosphate, available nutrients, water holding capacity etc. are analysed on charge basis.

2. UG LABORATORY

The under graduate laboratory of Department of Aquaculture is equipped with all the equipment for conducting practical classes for the B.F.Sc students. The total laboratory space is 800 square feet. The laboratory is having 10 Nos. of lab tables and 40 lab stools. Beside the laboratory is having the following equipment.

- Shaking Incubator
- Shaker
- Magnetic stirrer
- Digital pH Meter
- Multiparameter Water analyzer
- Water bath
- Mini spin
- Vortex
- Mixer
- Centrifuge
- Weighing balance
- Binocular microscope
- Distillation unit
- Stereo zoom microscope

3. FISH NUTRITION LAB



The fish nutrition laboratory is having an area of 150 square meter and is equipped with all equipment required for proximate analysis of fish feed. The following are the equipment available in the laboratory. The lab is also having pelletizer which is able to produce quality sinking feed.

- Fat estimation unit
- kjeldahl Unit
- Muffle furnace
- Fiber estimation Unit

- Pelletizer
- Grinder
- Flame photometer

4. MICROBIOLOGY AND MOLECULAR (PCR) DIAGNOSTIC LAB



The laboratory is having an area of 150 square meter and is equipped with all equipment required for microbial analysis. The following are the equipment available in the laboratory.

- Colony counter
- Trinocular microscope
- Laminar flow chamber
- Incubator
- Vacuum Pump
- Hot air oven
- Autoclave
- Pocket PCR Machine

The laboratory also analyze shrimp samples for major diseases WSSV, TSV, EMS and EHP received from farmers using start of art Pocket PCR Machine and the results can be observed in 30 min.

5. WET LABORATORY – AQUACULTURE (UG)



The wet laboratory for UG is being developed in 1000 square feet area. Currently experimental unit with a total of 18 tanks (9 tanks -50 lit capacity and 9 tanks -20 lit capacity) with steel stand was developed for UG student.

HIGHLIGHTS OF OFF CAMPUS FACILITIES:

I. ADVANCED RESEARCH FARM FACILITY, MADHAVARAM:

- Outstanding facility of Dr. M.G.R. Fisheries College and Research Institute, Ponneri.
- Crowned with major advanced culture systems and technologies
- R & D activities in freshwater in major aquaculture species
- Central and State Govt. funding agencies projects are executed
- Strong institutional collaboration for product testing

THRUST AREAS

- Biofloc Technology in healthy shrimp and GIFT Tilapia production
- Bioremediation of industrial effluents
- Indigenous RAS based Seabass culture
- Remunerative income generation through aquaponics integration
- Standardization of breeding and rearing of indigenous freshwater ornamental fish species

SPECIES CULTURED

- GIFT Tilapia (*Oreochromis niloticus*)
- Red Bellied Pacu (*Piaractus brachipomus*)
- Pangasius (*Pangasianodon hypophthalmus*)
- Black Pacu (*Colossoma macropomum*)
- Catla (*Catla catla*)
- Rohu (*Labeo rohita*)
- Mrigal (*Cirrhinus mrigala*)
- Common Carp (*Cyprinus carpio*)
- Koi Carp (*Cyprinus carpio*)

Facilities Developed:

Sl.No	Facility	
1.	Aquaculture Biotechnology Laboratory	
2.	Nursery raceway unit	Race way – 4 (2 ton capacity) Air blower -4Nos. Sand filter – 4 Nos. Sumps - 4 No.
3.	HDPE Lines ponds	16 Nos.
4.	Multispecies Ornamental Fish Hatchery	Glass tanks -10 Nos. FRP tanks -16 Nos.
5.	Wet Laboratory 1	FRP tanks –8 Nos. Air blower - 1

6.	Wet Laboratory 2	FRP tanks –20 Air blower - 1
7.	Aquaponics	Lined tank – 2 (30 ton capacity) Plant bed – 20 Automatic pumping – 10 No. Air bower – 2 No.
8.	Azolla Culture Unit	Azolla bed – 5No.
9.	RAS (Recirculating Aquaculture System)	Raceways – 2 Bio filter - 1 Hatchery tanks – 4

Aquaculture Biotechnology Laboratory

- Water & Soil quality testing lab
- Aquatic Microbiology lab
- Molecular PCR lab

List of instruments available at ARFF, Madhavaram

1. pH meter
2. Autoclave (bench top)
3. Water bath
4. Deep freezer
5. Incubator-2
6. Shaker
7. Heating mantle
8. Laminar air flow
9. Vacuum pump
10. Magnetic stirrer
11. Hot air oven
12. Gel electrophoresis
13. PCR
14. Gel doc
15. Distillation unit
16. Muffle furnace
17. DO meter
18. Weighing balance-2
19. Turbidity meter
20. UV spectrophotometer
21. Elisa reader
22. Vortex
23. Centrifuge-3
24. Reactor
25. Microscope
26. Automatic tissue processor
27. Jar test apparatus
28. Refrigerator-2



Water quality Lab



Molecular Lab



Microbiology Lab



Nursery Raceway Facility

Heterotrophic based nursery raceways of fifty tonnes capacity are used for the nursery rearing of shrimps and tilapia fishes. The advantages are:

- High stocking density with maximum yield
- High biosecured facility
- Intensive systems with high tech aeration
- Easily manageable system
- Indigenously designed drainage



HDPE Lined Pond Facility

Intensive nursery and grow out ponds of 18 Nos. have been developed to undertake research along with the industrial stakeholders

- Central drainage accessed drainage facility

- Installed with different modules of surface aerators with bottom aeration
- Protected with bird & dog fencing structures

Incubation Hub

Seven ponds were allotted for incubation to the progressive shrimp and fish farmers and technology guidance is provided by TNJFU faculty.



Lined Pond



Student research Pond

Multispecies Ornamental Fish Hatchery

Breeding and rearing of ornamental fishes in the FRP tanks and aquariums has been standardized.



Outer view



FRP Tanks



Aquarium Tanks

Wet laboratory-I

Facility is utilized for carrying out research works for PG and Ph.D. students. Facility contains indoor unit housing FRP tanks with the RAS facility.



Wet Laboratory – II



Industrial product testing laboratory

Facility is utilized for carrying out research works for PG and Ph.D. students. Facility contains indoor unit housing FRP tanks with the RAS facility



Outer View



Experimental FRP tanks

Aquaponics Unit

The aquaponics unit with an area of 500 sq. meter was established at ARFF, Madhavaram with 20 Nos. of biofilter troughs each with 120 square feet area and 2 fish tanks with 30 ton capacity each. There are two water flow through pump for each biofilters troughs connecting fish tanks and the aeration is supplied for fish tanks by 1 HP mini air blower.

Horticultural crops like tomato, cucumber, snake guard, bitter guard, ladies finger, Broad beans are reared in 20 Nos. of biofilter troughs in Aquaponics Unit, ARFF, Madhavaram along with GIFT Tilapia (in two tanks of 30 ton capacity) in RAS based system.

Aquaponics Research Complex



Aquaponics outer view



Aquaponics inner view



Horticulture crops at Aquaponics unit



Tilapia culture pond at Aquaponics unit



Azolla Culture Unit

Azolla is more environment friendly as it bind nitrogen directly from air. The Azolla cultured here are used as feed for tilapia.



Sea bass RAS facility



Sea Bass culture tanks facilitated with the RAS



Sea bass filtration unit



RAS Research Unit:

Raceways – 2 Nos. each with 30 ton capacity and with three treatment tanks, sump and 4 Nos. of hatchery tanks each with 10 ton capacity was developed



Outer view



Culture tanks



BioflocPhotobioreactor Unit

The unit is demonstrative model for production of Biofloc using photobioreactor. It consist of photobioreactor unit and outdoor raceway for culture of biofloc. Currently the unit is utilized by Ph.D. Scholar for research.



Photobioreactor unit



Biofloc raceway tanks



Research Projects:

Completed Research Projects:

Sl. No.	Title of the project	Budget received (Rs. in lakhs)	Funding Agency	Year
1	Biosecured microbial flocculent driven farming for domesticating eco-friendly and viable culture practices for Vannamei (<i>Litopenaeusvannamei</i>) and milk fish (<i>Chanoschanos</i>)	44.39	Part II Scheme Govt. of TN	2014-17
2	Farmed Pearl Spot (<i>Etroplussuratensis</i>) production as an alternative livelihood to promote brackishwater aquaculture entrepreneurship for fishers of Pulicat lake	211.00	NADP	2016-18
3	Effect of supplementation of KemZYME™ Aqua on performance of <i>Labeorohita</i> in HDPE lined ponds	2.88	KEMIN Industries Pvt. Ltd., Chennai	2016-17
4	Influence of Carbohydrate Enriched Distillery Effluent (MF-CEED) as carbon source in Aerobic Microbial Flocculent Technology	7.75	Rajashree Bio Solutions Pvt.Ltd., Coimbatore	2016-17

5	Studies on enrichment of shrimp larvae of <i>Penaeus vannamei</i> with various fatty acids and to study the safety of products	2.52	VIRBAC Animal Health India Pvt. Ltd., Mumbai	2017-18
6	Challenge study on Phytobiotic fed GIFT strain of <i>Oreochromis niloticus</i> with <i>Streptococcus agalactiae</i> serotype II	2.64 (US\$ 3969)	Liptosa Pvt. Ltd., Spain	2017-18

On-going Research Projects:

Sl. No.	Title of the project	Budget received (Rs. in lakhs)	Funding Agency	Year
1	Healthy Shrimp and GIFT Tilapia production through Biofloc-based farming system: Development of Technology and Standard Operating Procedure	57.93	DBT	2016-19
2	Upscaling of biofloc production technology for developing eco-feed for Vannamei shrimp culture	50.00	NFDB	2018-20
3	Establishment of demonstration unit of Azolla as feed supplement to GIFT tilapia at Advanced Research Farm Facility, Madhavaram, TNJFU Campus, Tamil Nadu.	3.017	NFDB	2018-20
4	Establishment of Re-circulatory Seabass Aquaculture Technology Park for doubling the income with low cost budgeting	350.00	NADP	2018-20

Completed University Research Project:

Sl. No.	Title	PI of the Project
1	Induced Breeding and Artificial Propagation of Pangas, <i>Pangasianodon hypophthalmus</i> (Sauvage, 1878)	T.L.S. Samuel Moses Assistant Professor

Completed Institutional Project

Sl. No.	Title	PI of the Project
1	Comparative studies on the ameliorant effect of organic manure and distillery effluent in the mass production of <i>Eudriluseugeniae</i>	Mrs. Sonia, Teaching Assistant

Technologies and Products Developed

- Aquaponics Technology for the GIFT Tilapia culture has been developed.
- Nursery raceway technology for Vannamei.
- Nursery lined pond culture of vannamei.

- Biofloc driven intensive nursery rearing technology for GIFT tilapia (*Oreochromis niloticus*).
- Azolla as feed supplement to GIFT Tilapia culture.
- Nutrifloc – Eco feed for Vannamei Nursery Culture
- By-products from Sugar Industry to enhance shrimp aquaculture production
- Development of biofloc meal as a feed ingredient to replace the fishmeal in shrimp feed
- Raceway Technology for nursery rearing of vannamei shrimp
- Effect of Supplementation of KemZYME™ Aqua on performance of *Labeo rohita* in HDPE lined ponds (Institute – Industry Project)
- Development of Aquaponics fish culture model by integrating Catfish and GIFT Tilapia with vegetable crops
- LDPE lined ponds for shrimp aquaculture

B. AQUATIC RAINBOW TECHNOLOGY PARK (ARTP), MADHAVARAM



1. HATCHERY SYSTEM (MULTI SPECIES ORNAMENTAL FISH HATCHERY)

This facility consists of 10 mini hatchery units with all the facilities including RAS system to breed ornamental fishes. Each unit has 20 FRP and 10 glass tanks of the following dimensions with central drainage system.

- 80L = 10 nos (glass tank)
- 600 L = 09 Nos
- 1000 L = 11 Nos



Hatcheries with the RAS facility



Indoor hatchery



Indoor hatchery

NURSERY SYSTEM (HETEROTROPHIC BASED INDOOR RACEWAYS)

This facility houses 10 Raceway units attached to RAS system. Each unit comprises of two tanks with each tank capacity of 6 x 2 x 1.15 m (13 ton capacity) with air lift pumps operated by blowers (2HP) which ensure a running water system and zero water exchange.



Indoor raceway



Indoor Nursery raceway system

3. GROW-OUT SYSTEM (HETEROTROPHIC BASED OUTDOOR RACEWAYS)

This facility houses 08 Raceway units with RAS system. Each unit comprises of four tanks with each tank capacity of 12 x 2 x 1.15 m (27 ton capacity) with air lift pumps operated by blowers (3HP) which ensure a running water system and zero water exchange.



4.LIVE FEED CULTURE SECTION:

Live feed culture facility incorporates a number of small tanks (32 nos.) of all sizes to grow Rotifers, Cyclops, Moina and all other such live food species. Adequate lighting, filled water and continuous aeration are provided. Size of this building is 208 m². This is maintained by TNJFU and produce live feed and selling to the farmers in and around the facility on unit cost basis.



Live feed unit



Live feed culture tanks

5. Quarantine Unit:

The unit is facilitated with the Aquarium tanks with separate inlet and filters. The unit is designed to quarantine the new fish stock and to treat the diseased stock. The unit is essential to avoid the spread of parasite, bacteria and virus to the other stock. Currently the system is utilized by the incubates of ARTP.



6. Packing Unit:

Packing unit is facilitated with the cement tanks attached to the re-circulatory unit. The unit is utilized by ARTP incubatees for the packing of the fishes before shipment.



7. ADMINISTRATIVE BUILDING CUM LABORATORY:

It consists of two floors of 300 m² each. The ground floor has a set of laboratories where includes Water Quality Laboratory, Microbiology, Fish Pathology laboratory and training hall for the research and development on various aspects. First floor is the administrative office to control ARTP and conference hall.

EQUIPMENTS IN WATER QUALITY LABORATORY:

1. Spectrophotometer
2. Refractometer
3. TDS meter
4. pH meter
5. Top pan balance
6. Chemical balance
7. Thermometer
8. Titration units (including pipettes, burettes, flasks, beakers etc.)

EQUIPMENTS IN MICROBIOLOGY LABORATORY:

1. Refrigerator (-20⁰C)
2. Oven
3. BOD Incubator
4. Horizontal Laminar Flow
5. Trinocular Microscope
6. StereozoomMicroscope
7. Shaker
8. Hot plate
9. Water Bath

EQUIPMENTS IN FISH PATHOLOGY LABORATORY:

1. Autoclave
2. BOD vertical incubator
3. Refrigerator (4⁰C)
4. Centrifuge
5. pH meter
6. Hot plate stirrer
7. Water double distillation unit
8. Orbital shaker
9. Vacuum pump set

C. PULICAT RESEARCH FIELD FACILITY, PAZHAVERKADU:

Pulicat Research Field Facility (PRFF), Pulicat an Off campus facility of Tamil Nadu Dr.M.G.R.

Fisheries College and Research Institute, Ponneri was inaugurated on 2nd January 2015 realizing the importance of Pulicat Lake which is bestowed with enormous potential for brackish water species and in order to cater the needs of fisherfolk and self-help groups in and around Pulicat lake. It is spread within an area of 0.75 acres and major research and developmental works are being operated at this centre. Many P.G and Ph.D scholars are doing their research works in the relevant areas from this centre. This centre has many advanced culture system facilities such as RAS and lined ponds for the intensive stocking and rearing of brackish water species. The major thrust areas of this centre are induced breeding of Pearl spot in large scale using lined ponds, RAS and cage based pearl spot culture and Larval rearing of pearl spot in indoor and outdoor hatcheries.



1. SOIL & WATER QUALITY LAB:

The Soil water quality lab was established in an area of 32 sq.m and equipped with following equipments:

1. BOD incubator
2. Deep freezer
3. Hot air oven
4. Muffle furnace
5. UV spectrophotometer
6. Distillation Unit
7. Digital pH meter
8. Weighing balance
9. Refractometer
10. Soil pH meter
11. Stabilizer
12. DO meter with accessories
13. Multiparameter Water analysis kit with Recording facilities
14. Refrigerator



2. MICROBIOLOGY LAB:

The Microbiology lab was established in an area of 19.32 sq.m and equipped with following equipments:

1. Biological incubator
2. Laminar flow chamber
3. Hot air oven
4. Hot plate
5. Microscope
6. Magnetic stirrer
7. Precision balance
8. Centrifuge
9. Orbital shaker
10. Vacuum pump
11. Air conditioner
12. Serological Water bath
13. Micropipettes
14. Vortex mixture



3. OUTDOOR HATCHERY:

A green shade housing facility with an area of 90 m² (6 m x 15.5 m) was constructed in PRFF, Pazhaverkadu campus to accommodate 20 nos. of FRP tanks with aeration facility (3HP blower). The details of FRP tanks are as given below:

- 2.4 ton capacity – 12 Nos.
- 0.6 ton – 8 nos.



4. INDOOR HATCHERY:

The indoor hatchery is equipped with following facilities

- 12 Nos. of 300 lit capacity FRP tanks with central drain facility with temperature and photo period control
- Two 4T capacity was used for breeding experiment.
- 24 nos. of glass tanks- first quality (90L) with aeration facility was also established for conducting feed trials



5. LINED PONDS

Three numbers of lined ponds were constructed with central drainage facility. Two of the ponds with dimension of 8x10 m and one pond with dimension of 22.4x10 m were constructed in PRFF Pazhaverkadu for conducting mass production of pearl spot.



6. RAS (RECIRCULATING AQUACULTURE SYSTEM)

Eight numbers of 1T FRP tank was provided with two numbers of biofilters (capacity of 300 grams of feed) with two numbers of 0.5 HP flow pump for RAS system.



7. MODERNIZED TREATMENT SYSTEM FOR TREATING SOURCE WATER

For treatment of water used for experiments the following facilities were established

- 5T tank – 1 No
- 10T tank – 1No
- Sand filter (10000 lit/ hour) – 2No.
- Cartridge filter – 6No.
- Dosage system – 2 Units
- 1 HP water pump
- 3 HP water pump
- 0.5 HP air blower



8. HDPE CAGES

A battery of 6 numbers of floating cage (HDPE) each having a volume of 18 m³ (3x3x2m) were erected in Pulicat lake with anchor facility, bird's net and handrails.



Completed Research Projects:

Sl.No.	Title of the Project	Year	PI	Funds (in Rs)	Funding Agency
1.	Farmed pearl spot (<i>Etroplus suratensis</i>) production as an alternative livelihood to promote brackish water aquaculture entrepreneurship for fishers of Pulicat lake	2016-18	Dr. S. Felix. Ph.D. Vice chancellor TNJFU, Nagapattinam	Rs. 211.00 lakhs	NADP

1. Research Projects:

On-going Research Projects:

Sl.No.	Title of the Project	Year	PI	Funds (in Rs)	Funding Agency
1.	Establishment of demonstration units on Re-circulatory Aquaculture Systems for doubling the farmers income in Vannamei Shrimp culture	2018-19	Dr.B.Ahilan, Ph.D. Dean, Dr. M.G.R. FC&RI, Ponneri.	Rs.24.08 lakhs	NFDB

Technology developed:

Sl. No.	Name of the Technique/ Technology	Name of the staff involved	Status (Developed/ Released/ Transferred)	Salient features
1	Induced Breeding of Pearl spot by administration of HCG	Dr.S. Felix, T.L.S.Samuel Moses Dr.S.Selvaraj	Developed	Induced breeding of pearl spot was standardized by administering 1500 IU of HCG for fishes weighing more than 125 grams

2	Mass seed production of pearl spot was standardized in lined ponds in fresh water	Dr.S. Felix, T.L.S.Samuel Moses Dr.S.Selvaraj	Developed	Mass seed production of pearl spot was standardized by injection with 0.5 ml/Kg of WOVA FH in 100 m ² lined ponds with tiles as substrates (1500 Nos. of pearl spot seeds were produced)
3	Cage culture of pearl spot	Dr.S. Felix, T.L.S.Samuel Moses Dr.S.Selvaraj	Developed	Cage culture of pearl spot was developed in battery of 6 Nos. of cages each having area of 18m ²
4	Rearing of pearl spot in RAS System	Dr.S. Felix, T.L.S.Samuel Moses Dr.S.Selvaraj	Developed	Rearing of pearl spot in RAS system was standardized in 8 Nos. of FRP tanks each with 1 ton capacity





6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING:

The Department has two instructional farm centres located at distinct parts of the region and has various facilities for the different aquaculture practises and the students are regularly taken to the centres for gaining first-hand knowledge in the subject. The instructional centres are ARFF (Advanced Research Farm Facility) located at Madhavaram contributing to research in commercially important freshwater species, and PRFF (Pulicat Research Farm Facility) located in the vicinity close to the second largest brackishwater lake (Pulicat) in the country for research in brackishwater species. Both of these centres are having very good infrastructure facilities with well-equipped laboratories (Microbiology, Water quality analysis) for the purpose of teaching and research. Research works are allotted to the Ph.D. students based on the identified thrust areas.

6.4.6. SUPERVISION OF STUDENTS IN Ph.D. PROGRAMMES:

During the course work, Ph.D. students' academic progress is being monitored by Ph.D. batch coordinator in the rank of Professor & Head. In the second year (Research), progress of student's research is being monitored by the advisory committee comprising of Chairman and two advisors. The details of Ph.D. Students since the inception of the programme in the Department is given below:

Completed

S.No	Batch	Reg. No of the Student	Name of the Student	Research Topic	Name and designation of the Chair/ Major Advisor
1	2016-17	DPF(P)16004 AQC	Mahadevi	Captive breeding and mass rearing of native ornamental western ghats fishes <i>Dawkinsiafilmentosa</i> and <i>Sahyadriadenisonii</i> through live feed and culture system based interventions	Dr. S. Felix Former Vice Chancellor, TNJFU
2		DPF (P) 16002(AQC)	Ezhilarasi. V	Reproductive performance using novel hormones in pearlspot (<i>Etroplussuratensis</i>) and large scale production using appropriate feeds and advanced culture systems	Dr. S. Felix Former Vice Chancellor, TNJFU
3		DPF (P) 16003 (AQC)	JavadAmiri	A study to standardize a proper grow out feed for <i>Etroplussuratensis</i> and demonstrate its production potential in brackish water cages	Dr. S. Felix Former Vice Chancellor, TNJFU
4		DPF (P) 16005 (AQC)	M.Menaga	Evaluation of relative efficacy of insitu and exsitu aerobic microbial floc production in intensive culture of Tilapia strains	Dr. S. Felix Former Vice Chancellor, TNJFU
5		DPF (P) 16001 (AQC)	BhosaleMange shMadhukarra	Induced reproductive performance of north – east ornamental fishes <i>Daniodangila</i> and <i>Puntius sophore</i> and growth enhancement through live & encapsulated feed interventions for mass culturing	Dr. S. Felix Former Vice Chancellor, TNJFU
6	2017-18	DPF (P) 17009 (AQC)	Sebastian SeverinMosha	Studies on the novel fish feed ingredients on fish meal replacement in practical diet for GIFT - tilapia (<i>Oreochromis niloticus</i>)	Dr. S. Felix Former Vice Chancellor, TNJFU

7		DPF(P)17007 (AQC)	E.Prabu	Effects of dietary supplementation of amino acids on the growth related gene expression and haematological responses of nile tilapia, <i>Oreochromis niloticus</i>	Dr.N.Felix Director DIVA
8		DPF (P) 17016 (F)	Pawan Kumar Sharma	Developing a sustainable production model for farm pond aquaculture in selected delta district of Tamil Nadu	Dr. Stephen Sampath Kumar, Director, DSA

Ongoing

S.No	Batch	Reg. No of the Student	Name of the Student	Research Topic	Name and designation of the Chair/ Major Advisor
1	2018-19	U-18-TN-03-003-D-F-001	Durshyant Kumar Damle	Gonad maturation and induced breeding of striped murrel <i>Channa striata</i> captive condition during the pre-monsoon period	Dr. B. Ahilan Dean Dr.M.G.R. FC&RI, Ponneri
2		U-18-TN-03-003-D-F-001	S.Ezhilmathi	Nutritional Impact of Formulated Feed on the Growth and Health Status of Asian Seabass (<i>Latescalcarifer</i>) in a Freshwater Recirculating Aquaculture System	Dr. B. Ahilan Dean Dr.M.G.R. FC&RI, Ponneri
3		U-18-TN-03-003-D-F-001	B.Kannan	Development of plant based diet for GIFT Tilapia, <i>Oreochromis niloticus</i> culture in floating cages	Dr. N. Felix Director, DIVA
4		U-18-TN-03-003-D-F-001	T.L.S.Samuel Moses	Optimizing the mineral supplementation in the diet of Asian Seabass (<i>Latescalcarifer</i>) in freshwater based recirculation Aquaculture System	Dr. B. Ahilan Dean Dr.M.G.R. FC&RI, Ponneri
5		U-18-TN-03-003-D-F-001	P.Yuvarajan	Studies on growth and maturation performance of bronze featherback <i>Notopterus notopterus</i> in captivity	Dr.P. Chidambaram Professor

6		U-18-TN-03-003-D-F-001	Sudha	Effects of dietary supplementation of black soldier fly larvae meal on the growth performance and physiological changes of <i>Pangasianodon hypophthalmus</i> (Sauvage, 1878) juveniles	Dr.B.Ahilan Dean Dr.M.G.R. FC&RI, Ponneri
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6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS ETC.):

The academic sessions of the college are being assessed with feedback from the students regarding teaching through questionnaires and student counseling by Ph.D. Coordinator and advisory committee.

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAMME FOR LAST FIVE YEARS:

Name of the Degree Programme	Actual student admitted in last five years					Attrition (%)				
	2016-17	2017-18	2018-19	2019-20	2020-21	2016-17	2017-18	2018-19	2019-20	2020-21
Ph.D. (Aquaculture)	05	04	06	-	03	Nil	Nil	-	Nil	Current year

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY:

Teaching through ICT tools is being followed for effective teaching by making use of the Wi-Fi campus facility and classroom environment. Ph.D. students' advisory committee sometimes comprises of faculty from other constituent units (working outside the student's institute) of the University. Therefore, there is a monthly video conferencing among the advisory committee members to monitor the progress as well as to evaluate research credits of Ph.D. programmes through online video conference mode.

Certificate

I, the Dean, **Dr. B. Ahilan** 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
Dr. MGR FC & RI
Ponneri - 601 204.

Signature of the Dean of the college
with Date & Seal



TAMIL NADU Dr. J JAYALALITHAA FISHERIES UNIVERSITY

Self Study Report for Post Graduate
Degree Programme
(M.F.Sc in Aquatic Environment Management)

Submitted by

Dr. M.G.R Fisheries College and Research Institute
TH Road, Ponneri – 601 204
Tamil Nadu

6.4. SELF STUDY REPORT FOR THE POST GRADUATE DEGREE PROGRAMME - M.F.SC IN AQUATIC ENVIRONMENT MANAGEMENT

6.4.1. BRIEF HISTORY OF THE M.F.SC IN AQUATIC ENVIRONMENT MANAGEMENT DEGREE PROGRAMME:

Master of Fisheries Science (M.F.Sc) in Aquatic Environment Management is offered by the Department of Aquatic Environment Management at Dr. M.G.R Fisheries College and Research Institute, Ponneri. The Department is functioning with effect from 14.11.2014 to perform teaching, research and extension activities in Aquatic Environment Management. The Department is equipped with faculty and facility to impart quality education, perform cutting edge research and provide efficient extension and advisory services to the fish farming and fishermen community. Considering the importance of Master's Programme in Aquatic Environment Management and state-of-art infrastructure facilities of the Department, from the academic year 2017-18, M.F.Sc in Aquatic Environment Management programme is being offered by the Department with an intake capacity of Two students per annum. Then on, the programme is offered following ICAR guidelines for the PG programme. The list of courses dealt in the degree programme is given below:

S.N	Course No	Title of the Course	Credit Hours
MAJOR COURSES			
1	AEM 501	Aquatic Environment and Biodiversity	2+1
2	AEM 502	Ecology and Management of Limnetic Environment	2+1
3	AEM 503	Planktonology	2+1
4	AEM 504	Aquatic Microbial Ecology	2+1
5	AEM 506	Integrated Coastal Zone Management	2+1
6	AEM 507	Aquatic Pollution and Wastewater Management	2+1
MINOR COURSE			
1	AEM 505	Fisheries Oceanography	1+1

6.4.2. FACULTY STRENGTH:

The faculty strength of Department of Aquatic Environment Management is shown in the below table:

Sl.No.	Name of the Post	Sanctioned strength	Staff in position	No. of Vacancy	Recommendations of V Deans' Committee
1.	Professor	1	1	0	1
2.	Associate Professor	-	0	0	1
3.	Assistant Professor	2	2	0	3
Total		3	3	0	5

6.4.3. TECHNICAL AND SUPPORTING STAFF:

The details of technical and supporting staff in the department are as follows:

S.No	Name of the Department	Staff	Staff in position
1.	Department of Aquatic Environment Management	Lab technician	1
		Lab Attendant	1
		Assistant	1

6.4.4. CLASSROOMS AND LABORATORIES:

No. of class rooms available for PG programme: One smart classroom with facilities to use ICT tools

FACILITIES:

1. AQUACULTURE WATER QUALITY TESTING LABORATORY

Aquaculture water quality testing laboratory is functioning under Department of Aquatic Environment Management at 320 square feet area. This laboratory consists of the equipments such as pH meter, Spectrophotometer, electronic weighing balance. The main function of this laboratory is to analyse the commercial water and soil samples received from aquaculture farmer's fields on cost basis. Advisory services will be given to farmers, based on the results. The minimum package for analysing pH, Alkalinity, salinity, ammonia and hardness of one water sample is Rs. 150/- . Apart from this, other water and soil quality parameters such as calcium, magnesium, potassium, nitrite, nitrate, phosphate, available nutrients, water holding capacity etc. are analysed on charge basis. The list of equipments available in Aquaculture Water Quality Testing Laboratory are

1. Spectrophotometer
2. pH meter
3. EC meter
4. Water bath
5. Heating mantle
6. Hot air Oven
7. Binocular Microscope
8. Distillation unit





2. UG LABORATORY



The under graduate laboratory of Department of Aquatic Environment Management is equipped with all the equipments for conducting practical classes for the B.F.Sc students. The total laboratory space is 800 square feet. The laboratory is having 7 Nos. of lab tables and 40 lab stools. Beside the laboratory is having the following equipments.

PG and Climatology lab

1. UV –Vis Spectrophotometer
2. Flame photometer
3. Automatic weather station (mini unit)
4. BOD incubator
5. Digital microscope
6. ORP meter
7. TDS meter
8. Algal culture unit
9. Water bath
10. Hot plate
11. Multiparameter analyser
12. Anemometer
13. Barometer
14. Psychrometer
15. Water sampler
16. Sediment sampler



Algal culture facility

The lists of strains maintained at algal culture facility are

- Spirulina
- Chlorella
- Scenedesmus
- Chroococcus



The PG and Ph.D students avail the facilities in the central equipment lab and also have access to the Equipments from other department for their research purpose

THRUST AREAS

- Study on anthropogenic impact on the fauna and flora in Pulicat lake ecosystem
- Environmental toxicology studies
- Aquatic production enhancement through ecosystem management.
- Conservation of fisheries resources

ONGOING PROJECT DETAILS:

S.No	Project Title	Funding Agency	Budget received (Rs. In lakhs)	Duration
01.	Revolving fund scheme on water quality testing lab for the Hatchery and Farm Sample	TNJFU	0.4	13.07.2016 onwards
02.	Artificial Coral Reef / Live Rock (ACR / LR) and Fish Aggregating Artificial Reef (FAAR) to Enhance Fish Diversity and Biomass in the Sea Near Pulicat Lake Towards Fishing Pressure Reduction and Livelihood Improvement of Fisherfolk in the Lake Region	TANII	430.66	2020-22

6.4.6. SUPERVISION OF STUDENTS IN PG PROGRAMMES:

During the course work, PG students' academic progress is being monitored by PG batch coordinator in the rank of Professor & Head. In the second year (Research), progress of student's research is being monitored by the advisory committee comprising of Chairman and two advisors. The details of PG students since the inception of the programme in the Department is given below:

Completed

S.No	Batch	Reg. No of the Student	Name of the Student	Research Topic	Name and designation of the Chair/ Major Advisor
1.	2018-19	U-18-TN-03-003-M-F-006	P. Arul Manova	Ex-situ Phycoremediation of effluents from aquaculture and seafood industry with microalgae, <i>Chlorella</i> sp. and <i>Chroococcus</i> sp.	Dr. D. Manikandavelu Professor and Head Department of Aquatic Environment Management

Ongoing

S.No	Batch	Reg. No of the Student	Name of the Student	Research Topic	Name and designation of the Chair/ Major Advisor
1	2019-20	U-15-TN-03-002-B-F-074 (AEM)	M. Vennila	Comparison of carbon dioxide scrubbing potential of microalgae (<i>Scenedesmus</i> sp. and <i>Chlorella</i> sp.) with a parallel emphasis on edible oil extraction	Dr.D. Manikandavelu Professor and Head Department of Aquatic Environment Management
2	2020-21	U-20-TN-03-003-M-F-006 (AEM)	R. Dinesh	Comparative nutrient removal efficiency of Biochar prepared from Eichhornia and sugarcane bagasse.	Mrs. S. Aruna Assistant Professor Department of Aquatic Environment Management
3	2020-21	U-20-TN-03-003-M-F-007 (AEM)	G.S Keerthivarman	Isolation of Native algal strains from the Freshwater Fish Culture tank, Temple tank, Quarry water and evaluation of their Biotic and Carbon sequestration potential.	Dr. D. Manikandavelu Professor and Head Department of Aquatic Environment Management

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS ETC.):

The academic sessions of the college are being assessed with feedback from the students regarding teaching through questionnaires and student counseling by PG coordinator and advisory committee.

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAMME FOR LAST FIVE YEARS:

Name of the Degree Programme	Actual student admitted in last five years				Attrition (%)			
	2017-18	2018-19	2019-20	2020-21	2017-18	2018-19	2019-20	2020-21
M.F.Sc (Aquatic Environment Management)	-	01	01	02	Nil	Nil	Nil	Current year

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY:

Teaching through ICT tools is being followed for effective teaching by making use of the wi-fi campus facility and classroom environment. PG/Ph.D. students' advisory committee sometimes comprises of faculty from other constituent units (working outside the student's institute) of the University. Therefore, there is a monthly video conferencing among the advisory committee members to monitor the progress as well as to evaluate research credits of PG/Ph.D. programmes through online video conference mode.

Certificate

I, the Dean **Dr. B. Ahilan** 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
Dr. MGR FC & RI
Ponneri - 601 204.

**Signature of the Dean of the college
with Date & Seal**



TAMIL NADU Dr. J JAYALALITHAA FISHERIES UNIVERSITY

Self Study Report for Doctor of Philosophy
Degree Programme
(Ph.D in Aquatic Environment Management)

Submitted by

Dr. M.G.R Fisheries College and Research Institute
TH Road, Ponneri – 601 204
Tamil Nadu

6.4. SELF STUDY REPORT FOR THE DOCTOR OF PHILOSOPHY DEGREE PROGRAMME - Ph.D IN AQUATIC ENVIRONMENT MANAGEMENT

6.4.1. BRIEF HISTORY OF THE Ph.D IN AQUATIC ENVIRONMENT MANAGEMENT DEGREE PROGRAMME:

Doctor of Philosophy (Ph.D) in Aquatic Environment Management is offered by the Department of Aquatic Environment Management at Dr. M.G.R Fisheries College and Research Institute, Ponneri. The Department is functioning with effect from 14.11.2014 to perform teaching, research and extension activities in Aquatic Environment Management. The Department is equipped with faculty and facility to impart quality education, perform cutting edge research and provide efficient extension and advisory services to the fish farming and fishermen community. Considering the importance of Doctor of Philosophy in Aquatic Environment Management and state-of-art infrastructure facilities of the Department, from the academic year 2017-18, Ph.D in Aquatic Environment Management programme is being offered by the Department with an intake capacity of two students per annum. Then on, the programme is offered following ICAR guidelines for the Ph.D programme. The list of courses dealt in the degree programme is given below:

S.N	Course No	Title of the Course	Credit Hours
MAJOR COURSES			
1	AEM 601	Advances in Aquatic Environment Studies	2+1
2	AEM 604	Estuarine and Coastal Dynamics	2+1
3	AEM 605	Organic Production and Plant Pigments	2+1
4	AEM 607	Management and Utilization of Wastewater	2+1
MINOR COURSES			
1	AEM 602	Biotechnology for Cleaner Environment	1+1
2	AEM 603	Benthic Ecology	1+1
3	AEM 606	Environment Impact Assessment	1+1
4	AEM 608	Restoration Ecology	1+1
5	AEM 609	Dispersal and Fate of Pollutants in the Ocean	1+1

6.4.2. FACULTY STRENGTH:

The faculty strength of Department of Aquatic Environment Management is shown in the below table:

Sl.No.	Name of the Post	Sanctioned strength	Staff in position	No. of Vacancy	Recommendations of V Deans' Committee
1.	Professor	1	1	0	1
2.	Associate	-	0	0	1
3.	Assistant	2	2	0	3
Total		3	3	0	5

6.4.3. TECHNICAL AND SUPPORTING STAFF:

The details of technical and supporting staff in the department are as follows:

S.No	Name of the Department	Staff	Staff in position
1.	Department of Aquatic Environment Management	Lab technician	1
		Lab Attendant	1
		Assistant	1

6.4.4. CLASSROOMS AND LABORATORIES:

No. of class rooms available for Ph.D programme: One smart classroom with facilities to use ICT tools

FACILITIES:

1. AQUACULTURE WATER QUALITY TESTING LABORATORY

Aquaculture water quality testing laboratory is functioning under Department of Aquatic Environment Management at 320 square feet area. This laboratory consists of the equipments such as pH meter, Spectrophotometer, electronic weighing balance. The main function of this laboratory is to analyse the commercial water and soil samples received from aquaculture farmer's fields on cost basis. Advisory services will be given to farmers, based on the results. The minimum package for analysing pH, Alkalinity, salinity, ammonia and hardness of one water sample is Rs. 150/- . Apart from this, other water and soil quality parameters such as calcium, magnesium, potassium, nitrite, nitrate, phosphate, available nutrients, water holding capacity etc. are analysed on charge basis. The list of equipments available in Aquaculture Water Quality Testing Laboratory are

1. Spectrophotometer
2. pH meter
3. EC meter
4. Water bath
5. Heating mantle
6. Hot air Oven
7. Binocular Microscope
8. Distillation unit



2. UG LABORATORY



The under graduate laboratory of Department of Aquatic Environment Management is equipped with all the equipments for conducting practical classes for the B.F.Sc students. The total laboratory space is 800 square feet. The laboratory is having 7 Nos. of lab tables and 40 lab stools. Beside the laboratory is having the following equipments.

PG and Climatology lab

1. UV –Vis Spectrophotometer
2. Flame photometer
3. Automatic weather station
(Mini unit)
4. BOD incubator
5. Digital microscope
6. ORP meter
7. TDS meter
8. Algal culture unit
9. Water bath
10. Hot plate
11. Multiparameter analyser
12. Anemometer
13. Barometer
14. Psychrometer
15. Water sampler
16. Sediment sampler



Algal culture facility

The lists of strains maintained at algal culture facility are

- Spirulina
- Chlorella
- Scenedesmus
- Chroococcus



The PG and Ph.D students avail the facilities in the central equipment lab and also have access to the equipments from other departments for their research purpose.

THRUST AREAS

- Study on anthropogenic impact on the fauna and flora in Pulicat lake ecosystem
- Environmental toxicology studies
- Aquatic production enhancement through ecosystem management.
- Conservation of fisheries resources

ONGOING PROJECT DETAILS:

S.No	Project Title	Funding Agency	Budget received (Rs. In lakhs)	Duration
01.	Revolving fund scheme on water quality testing lab for the Hatchery and Farm Sample	TNJFU	0.4	13.07.2016 onwards
02.	Artificial Coral Reef / Live Rock (ACR / LR) and Fish Aggregating Artificial Reef (FAAR) to Enhance Fish Diversity and Biomass in the Sea Near Pulicat Lake Towards Fishing Pressure Reduction and Livelihood Improvement of Fisherfolk in the Lake Region	TANII	430.66	2020-22

6.4.6. SUPERVISION OF STUDENTS IN Ph.D PROGRAMMES:

During the course work, Ph.D student's academic progress is being monitored by Ph.D batch coordinator in the rank of Professor & Head. In the second and third year (Research), progress of student's research is being monitored by the advisory committee comprising of chairman and two advisors. The details of Ph.D students since the inception of the programme in the department is given below:

Completed

S.No	Batch	Reg. No of the Student	Name of the Student	Research Topic	Name and designation of the Chair/ Major Advisor
1.	2017-18	DPF (P) 17012 (AEM)	C. Prabhanjan Kumar Reddy	Biochemical, Haematological and Histological changes in <i>Pangasius Hypophthalmus</i> (Sauvage, 1878) Exposed to Deltamethrin and Lead Nitrate	Dr.D. Manikandavelu , Professor and Head Department of Aquatic Environment Management

Ongoing

S.No	Batch	Reg. No of the Student	Name of the Student	Research Topic	Name and designation of the Chair/ Major Advisor
1	2017-18	DPF (P) 17011 (AEM)	S. Aruna	Screening of Nitrogen and Phosphorus Mobilizing Bacteria in Mangroves of Ennore Region and their role in Nutrient Cycling	Dr.D. Manikandavelu , Professor and Head Department of Aquatic Environment Management

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS ETC.):

The academic sessions of the college are being assessed with feedback from the students regarding teaching through questionnaires and student counseling by PG coordinator and advisory committee.

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAMME FOR LAST FIVE YEARS:

Name of the Degree Programme	Actual student admitted in last five years				Attrition (%)			
	2017-18	2018-19	2019-20	2020-21	2017-18	2018-19	2019-20	2020-21
Ph.D (Aquatic Environment Management)	02	-	01	-	Nil	Nil	Nil	Current year

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY:

Teaching through ICT tools is being followed for effective teaching by making use of the wi-fi campus facility and classroom environment. PG/Ph.D. student' advisory committee sometimes comprises of faculty from other constituent units (working outside the student's institute) of the University. Therefore, there is a monthly video conferencing among the advisory committee members to monitor the progress as well as to evaluate research credits of PG/Ph.D. programmes through online video conference mode.

Certificate

I, the Dean **Dr. B. Ahilan** 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
Dr. MGR FC & RI
Ponneri - 601 204.

**Signature of the Dean of the college
with Date & Seal**



TAMIL NADU Dr. J JAYALALITHAA FISHERIES UNIVERSITY

Self Study Report for Post Graduate
Degree Programme
(M.F.Sc in Aquatic Animal Health)

Submitted by

Dr. M.G.R Fisheries College and Research Institute
TH Road, Ponneri – 601 204
Tamil Nadu

6.4. SELF STUDY REPORT FOR THE POST GRADUATE DEGREE PROGRAMME - M.F.Sc IN AQUATIC ANIMAL HEALTH

6.4.1. BRIEF HISTORY OF THE M.F.Sc IN AQUATIC ANIMAL HEALTH DEGREE PROGRAMME:

Master of Fisheries Science (M.F.Sc) in Aquatic Animal Health is offered by the Department of Aquatic Animal Health Management at Dr. M.G.R Fisheries College and Research Institute, Ponneri. The department is functioning with effect from 01.09.2016 to perform teaching, research and extension activities in Aquatic Animal Health Management. The Department is equipped with faculty and facility to impart quality education, perform cutting edge research and provide efficient extension and advisory services to the fish and shrimp farming community. Considering the importance of master's programme in Aquatic Animal Health and state-of-art infrastructure facilities of the department, M.F.Sc in Aquatic Animal Health programme is being offered by the Department from the academic year 2017-2018 following ICAR guidelines for the PG programme. The list of courses dealt in the M.F.Sc programme is given below:

Sl.No	Course No	Title of the Course	Credit Hours
1	AAH 501	Viral and bacterial diseases of Finfish and Shellfish	2+1
2	AAH 502	Parasitic diseases of Finfish and Shellfish	2+1
3	AAH 503	Health Management In Aquaculture	2+1
4	AAH 504	Systemic Fish Pathology	2+1
5	AAH 505	Fish Immunology	2+1
6	AAH 506	Microbiological Techniques	1+1
7	AAH 507	Fish Virology and Cell Culture	2+1
8	AAH 508	Clinical Pathology	1+1
9	AAH 509	Non-Infectious and Fungal Diseases	1+1
10	AAH 510	Aquatic environment and Fish Health	1+1
11	AAH 511	Diagnostic Techniques	1+1

6.4.2. FACULTY STRENGTH:

The faculty strength of Department of Aquatic animal health is shown in the table below

Sl.No.	Name of the Post	Sanctioned strength	Staff in position	No. of Vacancy	Recommendations of V Deans' Committee
1.	Professor	1	1	0	1
2.	Associate Professor	-	-	-	1
3.	Assistant Professor	2	2	0	2

6.4.3. TECHNICAL AND SUPPORTING STAFF:

The technical and supporting staff shown below are engaged in the overall day to day maintenance of the lab facilities, assisting in the conduct of practical demonstrations and the experimental trials

S.No	Name of the Department	Staff	Staff in position
1.	Department of Aquatic Animal Health Management	Lab technician	1
		Lab attendant	1

6.4.4. CLASSROOMS AND LABORATORIES:

No. of class rooms available for post graduate programme: One smart classroom with facilities to use ICT tools.

LABORATORY FACILITIES

1. MICROBIOLOGY LABORATORY

This laboratory is housed with the equipments required for the demonstration during classes and for the conduct of the research for the students. The equipments available in the lab include,

- Incubator
- Digital pH meter

- Serological water bath
- Autoclave
- Orbital shaker
- Vortex mixer
- Laminar air flow chamber
- Microwave oven
- Hot air plate
- Hot air oven
- Muffle furnace
- Microscopes



Orbital shaker



Laminar air flow chamber



Hot air oven



Microscopes

2. MOLECULAR DIAGNOSTIC LABORATORY

The lab houses advanced equipments for molecular diagnosis of diseases. The following equipments are available in the lab

- PCR Thermal cycler
- Real-time PCR Thermal cycler
- Spectrophotometer
- Deep freezers
- Refrigerated centrifuge
- Gel documentation unit
- UV Trans illuminator
- Agarose gel electrophoresis



Real-time PCR Thermal cycler



Spectrophotometer



Deep freezer



Refrigerated centrifuge



Gel documentation unit & Agarose gel electrophoresis



UV Trans illuminator

4. WET LABORATORY

Wet lab is provided with aquarium and aeration system to carry out the fish rearing and pathogen challenge studies. The laboratory is being used for the demonstration of the sample collection from fish, dissection, conduct of trials in fish models for the research projects and students research work



Research Projects:**On-going Research Projects:**

Sl. No.	Title of the project	Budget received (in Rs)	Funding Agency	Year
1.	Rapid Diagnosis of shrimp, viral and bacterial Diseases by molecular methods in hatchery and farm samples	1,81,600	Self-financing	2015 - till date

Outreach/Extension activities:

Sl.No.	Name of the Extension activities/Program	Year	Beneficiary
1.	➤ Disease surveillance activities in the shrimp and food fish farms, ornamental fish rearing units in and around Thiruvallur district ➤ Analysis of Vibrio in the water samples from fish and shrimp farms ➤ Dissemination of disease management practices and Best Management Practices (BMPs) are being done to creating awareness on the aquatic animal health management among the farmers.	2015 - 2021	1816

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING:

The department has a full-fledged facility for the demonstration and the conduct of practical classes on aspects related to aquatic animal health viz., diagnostic techniques, sample collection and processing for disease diagnosis; conduct of treatment assays and disease challenge studies with pathogens in fish models.

The department also utilizes the lab and research facilities of the State Referral laboratory for aquatic animal health with the state of art laboratory facilities at the Madhavaram campus of the University. The laboratory is equipped with various advanced equipments that are helpful in the diagnosis of the diseases and has a repository of the pathogens needed for the students research. The various units of the laboratory include, Microbiology, Molecular biology, Immunology, Cell culture, Water quality analysis and Wet laboratory. The students are regularly taken to the referral lab for gaining first-hand knowledge in the subject. Research works are allotted to the M.F.Sc. students based on the identified thrust areas and based on the field problems.

6.4.6. SUPERVISION OF STUDENTS IN PG PROGRAMME:

During the course work, M.F.Sc student's academic progress is being monitored by the batch coordinator. During research, progress of the students is being monitored by the advisory committee comprising of Chairman and two advisors. The detailsof students since the inception of the PG programme in the Department is given below:

Completed

S.No	Batch	Reg. No of the Student	Name of the Student	Research Topic	Name and designation of the Chair/ Major Advisor
1	2015-16	MFT 15072 (AAH)	Giridharan. M	Development of a molecular diagnostic assay for specific detection of <i>Enterocytozoon hepatopenaei</i> infecting penaeid shrimp	Dr. A. Uma Professor and Head Department of Aquatic Animal Health Management
2	2017-18	MFP 17010 (AAH)	Gokul Raj. A	Epidemiology of <i>Mycobacteriosis</i> and <i>columnaris</i> in ornamental fishes of Tiruvallur district	Dr. A. Uma Professor and Head Department of Aquatic Animal Health Management
3	2018-19	U-18-TN-03-003-M-F-004	Philominal. P	Pathogenicity and immune Response in <i>Oreochromis niloticus</i> Experimentally Infected with <i>Shewanella putrefaciens</i>	Dr. A. Uma Professor and Head Department of Aquatic Animal Health Management
4	2018-19	U-18-TN-03-003-M-F-005	Subash. P	Diagnosis, Treatment and Immune response in <i>Penaeus vannamei</i> infected with <i>Enterocytozoon hepatopenaei</i> causing <i>hepato pancreatic microsporidiasis</i>	Dr. A. Uma Professor and Head Department of Aquatic Animal Health Management

Ongoing

S. No	Batch	Reg. No of the Student	Name of the Student	Research Topic	Name and designation of the Chair/ Major Advisor
1	2019-20	U-15-TN 03-002-BF066	Ponsrinivasan.A	Prevalence of parasitic infections in marine and brackish water finfish and shellfish of Tiruvallur District, Tamil Nadu and assessment of host - immune response in a fish model	Dr.A.Uma Professor and Head Department of Aquatic Animal Health Management
2	2020-021	U-20-TN-03-003-M-F-004	Gururaj. M	Prevalance of Antimicrobial resistance (AMR)in the shrimp culture systems in Thiruvallur district,Tamil Nadu.	Dr.A.Uma Professor and Head Department of Aquatic Animal Health Management

3	2020-2021	U-20-TN-03-003-M-F-005	Shreelekha. M.P	Evaluating the antimicrobial property of selected herbs and assessing their effects on the disease resistance and immune response in Asian sea bass (<i>Lates calcarifer</i>)	Dr. A. Uma Professor and Head Department of Aquatic Animal Health Management
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6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS ETC.):

The academic sessions of the college are being assessed with feedback from the students regarding teaching through questionnaires and student counseling by PG Coordinator and the advisory committee.

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAMME FOR LAST FIVE YEARS:

Name of the Degree Programme	Actual student admitted in last five years				Attrition (%)			
	2017-18*	2018-19	2019-20	2020-21	2017-18	2018-19	2019-20	2020-21
M.F.Sc. (Aquatic Animal Health)	01	02	01	02	0	0	0	0

*PG program in Aquatic animal health was started in 2017-2018

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

The courses offered in the department are taught through the ICT tools utilizing the internet facilities of the campus. As experts in the field from other constituent units (working outside the student's institute) of the University are also included for the PG student's advisory committee on need basis, progress review meetings are being conducted through video conferencing to monitor their progress and for evaluation.

Certificate

I, the Dean **Dr. B. Ahilan** 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
Dr. MGR FC & RI
Ponneri - 601 204.

**Signature of the Dean of the college
with Date & Seal**



TAMIL NADU Dr. J JAYALALITHAA FISHERIES UNIVERSITY

Self-Study Report for Doctoral Programme
(Ph.D in Aquatic Animal Health)

Submitted by

Dr. M.G.R Fisheries College and Research Institute
TH Road, Ponneri – 601 204
Tamil Nadu

6.4. SELF STUDY REPORT FOR THE DOCTORAL PROGRAMME - Ph.D. IN AQUATIC ANIMAL HEALTH

6.4.1. BRIEF HISTORY OF THE DOCTORAL PROGRAMME -Ph.D. IN AQUATIC ANIMAL HEALTH

Ph.D. Programme in Aquatic Animal Health is offered by the Department of Aquatic Animal Health Management at Dr. M.G.R Fisheries College and Research Institute, Ponneri. The Department is functioning with effect from 01.09.2016 to perform teaching, research and extension activities in aquatic animal health management. The Department is equipped with faculty and facility to impart quality education, perform cutting edge research and provide efficient extension and advisory services to the fish and shrimp farming community. Considering the importance of Doctoral Programme in Aquatic Animal Health and state-of-art infrastructure facilities of the Department, from the academic year 2017-2018, Ph.D in Aquatic Animal Health programme is being offered by the Department with an intake capacity of one student per annum and the programme is offered following ICAR guidelines for the Ph.D. programme. The list of courses dealt in the Ph.D programme is given below:

Sl.No.	Course No.	Course Title	Credit Hours
1.	AAH 601	Fish and Shellfish Virology	3 (2+1)
2.	AAH 602	Advances in Parasitology	3 (2+1)
3.	AAH 603	Molecular Mechanism in Disease Process	3 (2+1)
4.	AAH 606	Biotechnological Tools in Disease Diagnosis	2 (1+1)
5.	AAH 608	Molecular Techniques in Microbiology	2(1+1)
6.	AAH 609	Fish Mycology and Virology	2(1+1)

6.4.2. FACULTY STRENGTH:

The faculty strength of Department of Aquatic animal health is shown in the table below

Sl.No.	Name of the Post	Sanctioned strength	Staff in position	No. of Vacancy	Recommendations of V Deans' Committee
1.	Professor	1	1	0	1
2.	Associate Professor	-	-	-	1
3.	Assistant Professor	2	2	0	2
Total		3	3	0	4

6.4.3. TECHNICAL AND SUPPORTING STAFF:

On the basis of infrastructure facilities, Department of Aquatic Animal Health Management can be considered one of the most important department of the institute. Hence, apart from the dedicated technical and supporting staff in the Department, there are more supporting staffs available. The above mentioned technical and supporting staffs, who are normally engaged in the overall day to day maintenance of the department. In addition to it, the department has the following technical and supporting staff:

S.No	Name of the Department	Staff	Staff in position
1.	Department of Aquatic Animal Health Management	Lab technician	1
		Lab attendant	1

6.4.4. CLASSROOMS AND LABORATORIES:

No. of class rooms available for Ph.D. programme; One smart classroom with facilities to use ICT tools.

LABORATORY FACILITIES

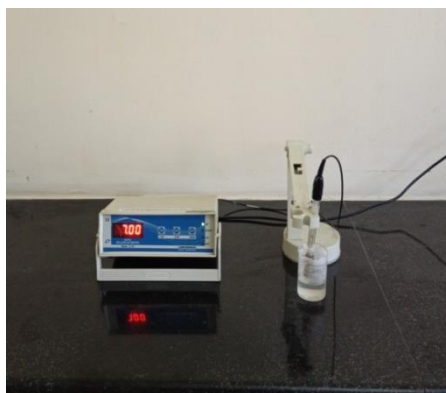
1. MICROBIOLOGY LABORATORY

This laboratory consists of the equipment such as laminar air flow chamber, autoclave, hot air plate, hot air oven, incubator, orbital shaker, vortex mixer, microscopes. The main function of this laboratory is to analyse the bacterial pathogen of water samples received from aquaculture farmer's on cost basis. Advisory services are given to farmers, based on the results. The laboratory is equipped with the following equipments needed for the conduct of practical classes and research for the students;

- Incubator
- Digital pH meter
- Serological water bath
- Autoclave
- Orbital shaker
- Vortex mixer
- Laminar air flow chamber
- Microwave oven
- Hot air plate
- Hot air oven
- Muffle furnace
- Microscopes



BOD incubator



Digital pH meter



Orbital shaker



Laminar air flow chamber



Microwave oven



Hot air plate



Hot air oven



Microscopes

2. MOLECULAR DIAGNOSTIC LABORATORY

The lab houses advanced equipments for molecular diagnosis of diseases. The following equipments are available in the lab

- PCR Thermal cycler
- Real-time PCR Thermal cycler
- Spectrophotometer
- Deep freezers
- Refrigerated centrifuge
- Gel documentation unit
- UV Trans illuminator
- Agarose gel electrophoresis



PCR Thermal cycler & Real-time PCR
Thermal cycler



Spectrophotometer



Deep freezers



Refrigerated centrifuge



Gel documentation unit & Agarose gel electrophoresis



UV Trans illuminator

4. WET LABORATORY

Wet lab is provided with aquarium and aeration system to carry out the fish rearing and pathogen challenge studies. The laboratory is being used for the demonstration of the sample collection from fish, dissection and conduct of trials in fish models for the research projects and students research work



Research Projects:

On-going Research Projects:

Sl. No.	Title of the project	Budget received (in Rs)	Funding Agency	Year
1.	Rapid Diagnosis of shrimp, viral and bacterial Diseases by molecular methods in hatchery and farm Sample	1,81,600	Self- financing	2015 - till date

Outreach/Extension activities:

Sl.No.	Name of the Extension activities/Program	Year	Beneficiary
1.	- Disease surveillance activities in the shrimp and food fish farms, ornamental fish rearing units in and around Thiruvallur district - Analysis of Vibrio in the water samples from fish and shrimp farms - Dissemination of disease management practices and Best Management Practices (BMPs) are being done to creating awareness on the aquatic animal health management among the farmers.	2015 - 2021	1816

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING:

The department has a full-fledged facility for the demonstration and the conduct of practical classes on aspects related to aquatic animal health viz., diagnostic techniques, sample collection and processing for disease diagnosis; conduct of treatment assays and disease challenge studies with pathogens in fish models

The department also utilizes the lab and research facilities of the State Referral laboratory for aquatic animal health with the state of art laboratory facilities at the Madhavaram campus of the University. The laboratory is equipped with various advanced equipments that are helpful in the diagnosis of the diseases and has a repository of the pathogens needed for the students research. The various units of the laboratory include, Microbiology, Molecular biology, Immunology, Cell culture, Water quality analysis and Wet laboratory. The students are regularly taken to the referral lab for gaining first-hand knowledge in the subject. Research works are allotted to the Ph.D. students based on the identified thrust areas and based on the field problems.

6.4.6. SUPERVISION OF STUDENTS IN Ph.D. PROGRAMMES:

During the course work, Ph.D. student's academic progress is being monitored by Ph.D. batch coordinator in the rank of Professor & Head. In the second year (Research), progress of student's research is being monitored by the advisory committee comprising of Chairman and two advisors.

The details of Ph.D. students since the inception of the programme in the Department is given below:

Ongoing

S. No	Batch	Reg. No of the Student	Name of the Student	Research Topic	Name and designation of the Chair/ Major Advisor
1	2017-18	DPF (P) 17010 (AAH)	Praveen Raj. J	Screening for bacterial and parasitic diseases in freshwater fishes of Andaman islands and Tiruvallur district, Tamil Nadu and developing eco-friendly control measures.	Dr.A.Uma Professor and Head Department of Aquatic Animal Health Management
2	2020-21	U-20-TN-03-003-D-F-004	Philominal. P	Influence of selected natural and synthetic immunomodulators on the growth, disease resistance and immune responses in Asian seabass, Lates calcarifer during experimental challenge with bacterial pathogens	Dr.A.Uma Professor and Head Department of Aquatic Animal Health Management

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS ETC.):

The academic sessions of the college are being assessed with feedback from the students regarding teaching through questionnaires and student counseling by Ph.D. Coordinator and the advisory committee.

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAMME FOR LAST FIVE YEARS:

Name of the Degree Programme	Actual student admitted in last five years				Attrition (%)			
	2017-18*	2018-19	2019-20	2020-21	2017-18	2018-19	2019-20	2020-21
Ph.D. (Aquatic Animal Health)	01	00	00	01	0	-	-	0

*Ph.D. program in Aquatic animal health was started in 2017-2018

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY

The courses offered in the department are taught through the ICT tools as the campus is Wi-Fi enabled. As experts in the field from other constituent units (working outside the student's institute) of the University or other institutions are also included for the PhD student's advisory committee on need basis, progress review meetings are being conducted through video conferencing to monitor the progress as well as to evaluate research credits of Ph.D. programmes.

Certificate

I, the Dean **Dr. B. Ahilan** 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
Dr. MGR FC & RI
Ponneri - 601 204.

Signature of the Dean of the college
with Date & Seal



TAMIL NADU Dr. J JAYALALITHAA FISHERIES UNIVERSITY

Self Study Report for Post Graduate
Degree Programme
(M.F.Sc in Fish Processing Technology)

Submitted by

Dr. M.G.R Fisheries College and Research Institute
TH Road, Ponneri – 601 204
Tamil Nadu

6.4. SELF STUDY REPORT FOR THE POST GRADUATE DEGREE PROGRAMME - M.F.SC IN FISH PROCESSING TECHNOLOGY

6.4.1. BRIEF HISTORY OF THE M.F.Sc IN FISH PROCESSING TECHNOLOGY DEGREE PROGRAMME:

Master of Fisheries Science (M.F.Sc) in Fish Processing Technology is offered by the Department of Fish Processing Technology at Dr. M.G.R Fisheries College and Research Institute, Ponneri. The department is functioning with effect from 14.11.2014 to perform teaching, research and extension activities in processing Technology. The Department is equipped with faculty and facility to impart quality education, perform cutting edge research and provide efficient extension and advisory services to the fish farming community. Considering the importance of Master's Programme in Fish Processing Technology and state-of-art infrastructure facilities of the Department, from the academic year 2016-17, M.F.Sc in Fish Processing Technology programme is being offered by the Department with an intake capacity of two students per annum. Then on, the programme is offered following ICAR guidelines for the PG programme. The list of courses dealt in the degree programme is given below:

S.N	Course No	Title of the Course	Credit Hours
MAJOR COURSES			
1	FPT 501	Technology of fish freezing and frozen storage	2+1
2	FPT 502	Thermal processing of fishery products	2+1
3	FPT 503	Quality assurance, management and certification	2+1
4	FPT 504	Applied fish biochemistry	2+1
MINOR COURSES			
5	FPT 505	Techniques in microbiology	1+1
6	FPT 506	Cured, dehydrated and smoked fishery products	1+1
7	FPT 507	Handling, storage and transport of fresh fish	1+1

8	FPT 508	Technology of mince-based fish products	1+1
9	FPT 509	Additives in fish processing	1+1
10	FPT 510	Fish by-products and waste utilization	1+1
11	FPT 511	Microorganisms of public health significance	1+1
12	FPT 512	Design, maintenance of fish processing plants and instrumentation	1+1
11	FPT 513	Packaging of fish and fishery products	1+1

6.4.2. FACULTY STRENGTH:

The faculty strength of Department of Fish Processing Technology is shown in the below table:

Sl.No.	Name of the Post	Sanctioned strength	Staff in position	No. of Vacancy	Recommendations of V Deans' Committee
1.	Professor	0	0	0	1
2.	Associate	1	1	0	3
3.	Assistant	4	4	0	5
Total		5	5	0	9

6.4.3. TECHNICAL AND SUPPORTING STAFF:

The Department is having two instructional centres, PHRIC (Post-Harvest Research and Incubation centre) contributing to research in fish post harvesting, processing and product development. Techno park Seafood knowledge highway to disseminate the importance and nutritive value of fish and to provide fish-based products to students and general public. The details of technical and supporting staff are given below:

S.No	Name of the Department	Staff	Staff in position
1.	Department of Fish Processing Technology	Lab Technician	1
		Equipment Engineer	1
		Lab Attendant	1

6.4.4. CLASSROOMS AND LABORATORIES:

No. of class rooms available for PG programme: One smart classroom with facilities to use ICT tools

MAIN CAMPUS FACILITIES:

1. UG LABORATORY-SEAFOOD CHEMISTRY AND BIOCHEMISTRY LABORATORY

Seafood chemistry and biochemistry testing laboratory is functioning under Department of Fish Processing Technology at 320 square feet area.



The under graduate laboratory of Department of Fish Processing Technology is equipped with all the equipments for conducting practical classes for the B.F.Sc students. The total laboratory space is 800 square feet. The laboratory is having 10 Nos. of lab tables and 40 lab stools. Beside the laboratory is having the following equipments:

- Rotary Flash Evaporator
- Gel Electrophoresis Unit
- Protein Analyser (Kel Plus)
- Fat Analyser (Socs Plus)
- Fibre Analyser (Fibra Plus)
- Moisture Analyser (Hot Air Oven)

- Ash Analyser (Muffle furnace)
- Deep Freezer
- Centrifuge
- Over Head Stirrer
- pH Meter
- Refrigerator
- Weighing Balance
- Magnetic stirrer
- Water Bath
- Shaking Incubator
- Homogenizer
- Heating Mantle
- Hot Plate

2. PG LABORATORY - FISH PRODUCTS RESEARCH AND QUALITY TESTING LAB

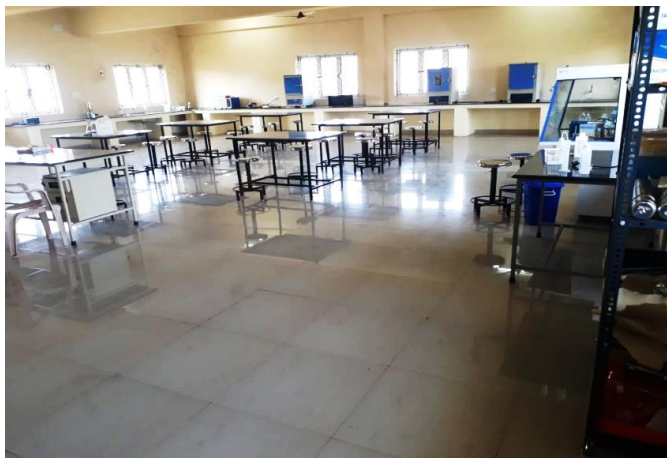


Fish Products Research and Quality Testing laboratory is having an area of 150 sq.m meter and is equipped with the following equipments:

- Gas chromatography – ECD & FID detector
- Double block gradient PCR
- Gel documentation system
- HPLC with UV & RF detector

- UV-Visible spectrophotometer
- Solvent filtration unit
- Sonicator
- Rotary evaporator
- Bomb Calorimeter
- Refrigerator

3. UG LABORATORY - MICROBIOLOGY LAB



The laboratory is having an area of 150 sq.m and is equipped with all equipment required for microbial analysis. The following are the equipment available in the laboratory.

- Autoclave
- Homogeniser
- Distillation unit
- Incubator
- Orbital shaker
- Laminar Flow chamber
- Refrigerator
- Weighing balance
- Hot air oven
- Microscopes
- Haemocytometer
- Vortex mixture
- Laminar flow chamber

5. POST HARVEST RESEARCH AND INCUBATION CENTRE



The Post-Harvest Research and Incubation Centre being developed in 1000 sq.ft area. The following are the equipment available in the laboratory

- Water Spray Retort
- Steam Cooking System
- Twin – Screw Extruder
- Portable Solar Drying Unit
- Flake Ice Machine
- Grill Oven
- Pasta Maker
- Pulveriser
- Baking Oven
- Micro Wave Oven
- Smoking Kiln
- Hot Air Cabinet Drier
- Batch Coder
- Solar Drier
- Heat Band Sealer
- High Pressure Sealing Machine
- Foot Operated Sealing Machine
- Bottle Sealing Machine
- Tray Packing Machine
- Vacuum Packaging Machine

- Automatic Pickle Packing Machine
- Carton Strapping Machine
- Can Seamer
- Cold Store (-18 °C)
- Chill Room (4 °C)
- Refrigeration Unit
- Deep Freezer
- Pre-Processing Unit
- Processing Unit
- Large scale Weighing Balance
- RO Plant
- Fish meat separator
- Nitrogen flushing machine
- Double side can seamer
- Ohmic heater
- Small scale weighing machine
- Manual batch printing machine
- 3 HP compressor unit

6. SOLAR TUNNEL DRYING UNIT

This unit is being used for demonstration and research purpose to the students. It is being also utilized by the entrepreneurs.



OFF CAMPUS FACILITIES:

I. FISH TECHNO PARK (FTP):

FTP is a Seafood knowledge highway to disseminate the importance and nutritive value of fish and to provide fish-based products to students and general public



II.KAYALAGAM:

A Retail Outlet is being used to enhance the marketing skills of Students.



THRUST AREAS

- ▶ Application of biodegradable active packaging material for fish and fishery products
- ▶ Extraction of natural pigments from marine source for the formulation of nutritional food and cosmetic product.
- ▶ Development of byproducts from Fish waste: Fish gelatin, Fish protein hydrolysate, Chitin, Chitosan, Fish meal, Fish protein concentrate, Fish oil, Calcium
- ▶ Development of pet food from Fish waste
- ▶ Development of omega-3 enriched snack food from Sardine
- ▶ Seaweed incorporated nutritional food products

ONGOING PROJECT DETAILS:

S.No	Project Title	Funding Agency	Budget received (Rs. In lakhs)	Duration
01.	Kayalagam – The Future Store for amplification of marketing of diversified fish products in Tamil Nadu	NADP	250.00	2018-2019

TECHNOLOGIES DEVELOPED FOR DISSEMINATION:

1. Developed chitin and chitosan from three different shellfish (shrimp, crab & squilla) and compared the properties
2. Developed new value added aquatic products from fish, and shell fish
 - (i) Retort Processed Products
 - Fish Curry and steamed rice in retortable pouch
 - Shrimp Curry in retortable pouch
 - Fish briyani in retortable pouch
 - Shrimp briyani in retortable pouch
 - Barbequed fish briyani in retortable pouch
 - Barbequed shrimp briyani in retortable pouch

(ii) Baked Products

- Seafood energy bar
- Marine protein bread
- Fish biscuit
- Shrimp biscuit
- Seaweed biscuit
- Azolla cookies
- Fish cake
- Shrimp cake
- Seaweed cake
- Crab cake

(iii) Extruded Products

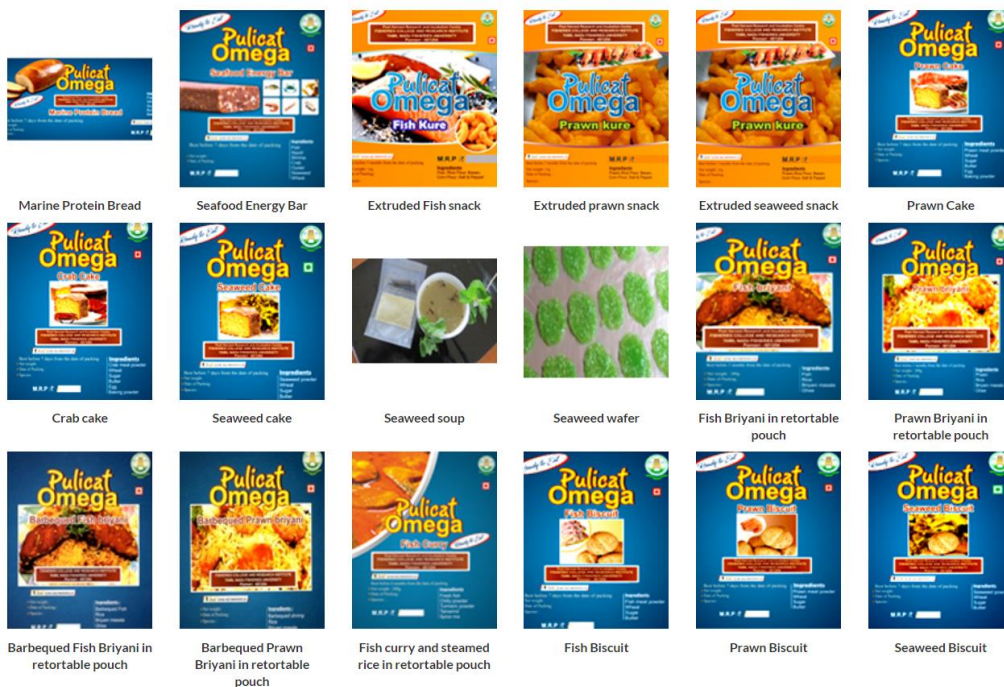
- Extruded snack from fish
- Extruded snack from shrimp
- Extruded snack from seaweed

(iv) Smoked/Barbequed Products

- Smoked Tilapia
- Barbequed fish
- Barbequed shrimp

3. Seaweed incorporated nutritional food products

- Seaweed soup
- Seaweed wafer
- Seaweed chips
- Seaweed biscuit
- Seaweed cake
- Seaweed salt
- Seaweed tea
- Extruded Seaweed snack



Developed technologies for 18 RTE and RTC fish products

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING:

Seafood and biochemistry laboratory is to conduct the UG practical classes. Apart from this, lab is used for to analyse the proximate composition of fish such as protein, fat, ash and moisture. Fish products research and quality testing laboratory is to conduct PG and Ph.D. practical classes and research purposes. This lab used for analysing fatty acid, amino acid, of the fishery product samples. In addition, it is used for analysing energy value of the fishery product samples. Microbiology laboratory is to conduct UG and PG practical classes. It includes preparing stained smears, culturing micro-organisms, performing tests to identify bacteria and fungi, and studying microbial growth control methods.

Apart from this, the Department is having two instructional centres, PHRIC (Post-Harvest Research and Incubation centre) and has various facilities contributing to research

in fish post harvesting, processing and product development. The students are regularly taken to the centres for gaining first-hand knowledge in the subject. Fish Techno Park Seafood knowledge highway to disseminate the importance and nutritive value of fish and to provide fish-based products to students and general public. These centres provides infrastructural facilities for fish post-harvest and fish processing and product development programs. The Centres play a lead role in developing appropriate, need based and cost effective post-harvest technologies/fishery products and dissemination of the outputs to the user groups for large scale adoption. Both of these centres are having very good infrastructure facilities with well-equipped laboratories for the purpose of teaching and research. Research works are allotted to the PG students based on the identified thrust areas.

6.4.6. SUPERVISION OF STUDENTS IN PG PROGRAMMES:

During the course work, PG student's academic progress is being monitored by PG batch coordinator in the rank of Professor & Head. In the second year (Research), progress of student's research is being monitored by the advisory committee comprising of Chairman and two advisors. The details of PG students since the inception of the programme in the Department is given below:

Completed

S.No	Batch	Reg. No of the Student	Name of the Student	Research Topic	Name and designation of the Chair/ Major Advisor
1	2017-18	MFP17011(FPT)	Mr.S.Ajith Kumar	Development of Ready to eat freeze dried product from penaeusvanna mei	Dr.S.Balasundari Dept. of of Fish Processing Technology, Dr.M.G.R Fisheries College & Research Institute, Ponneri
2	2018-19	U-18-TN-03-003-M-F-007	R.Bharathipriya	Study of potential of ohmic heating in the preservation of green mussel meat	Dr.S. Balasundari Professor & Head Dept of Processing Technology, Dr.M.G.R Fisheries College & Research Institute, Ponneri
3		U-18-TN-03-003-M-F-008	G.Viswanth	Process optimization and production of squid based extruder millet snack using Response Surface Methodology	Dr.S. Balasundari Professor & Head Dept of Processing Technology, Dr.M.G.R Fisheries College & Research Institute, Ponneri

Ongoing

S.No	Batch	Reg. No of the Student	Name of the Student	Research Topic	Name and designation of the Chair/ Major Advisor
1	2019-20	U-19-TN-03-003-M-F-005	A.MuthiahSeth upathy	Assessment of compliance of microbiological standards in food fishes from the selected fish markets of Chennai region.	Dr.S.Balasundrai Dr.M.G.R Fisheries College & Research Institute, Thalainayeru

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS ETC.):

The academic sessions of the college are being assessed with feedback from the students regarding teaching through questionnaires and student counseling by PG coordinator and advisory committee.

6.4.8.STUDENT INTAKE AND ATTRITION IN THE PROGRAMME FOR LAST FIVE YEARS:

Name of the Degree Programme	Actual student admitted in 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)	01	01	02	01	02	Nil	Nil	Nil	Nil	Current year

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY:

Teaching through ICT tools is being followed for effective teaching by making use of the wi-fi campus facility and classroom environment. PG/Ph.D. student's advisory committee sometimes comprises of faculty from other constituent units (working outside the student's institute) of the University. Therefore, there is a monthly video conferencing

among the advisory committee members to monitor the progress as well as to evaluate research credits of PG/Ph.D. programmes through online video conference mode.

Certificate

I, the Dean **Dr. B. Ahilan** 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
Dr. MGR FC & RI
Ponneri - 601 204.

**Signature of the Dean of the college
with Date & Seal**



TAMIL NADU Dr. J JAYALALITHAA FISHERIES UNIVERSITY

Self Study Report for Post Graduate
Degree Programme
(M.F.Sc in Fisheries Resource Management)

Submitted by

Dr. M.G.R Fisheries College and Research Institute
TH Road, Ponneri – 601 204
Tamil Nadu

6.4. SELF STUDY REPORT FOR THE POST GRADUATE DEGREE PROGRAMME - M.F.SC IN FISHERIES RESOURCE MANAGEMENT

6.4.1. BRIEF HISTORY OF THE M.F.SC IN FISHERIES RESOURCE MANAGEMENT DEGREE PROGRAMME:

Master of Fisheries Science (M.F.Sc) in Fisheries Resource Management is offered by the Department of Fisheries Resource Management at Dr. M.G.R Fisheries College and Research Institute, Ponneri. The Department is functioning with effect from 14.11.2014 to perform teaching, research and extension activities in Fisheries Resource Management. The department also undertakes research projects on Fisheries biology, molecular taxonomy of finfish and shellfish, population dynamics and stock assessment of finfish and shellfish and related extension activities on sustainable fisheries, aquatic biodiversity conservation related issues. Considering the importance of Master's Programme in Fisheries Resource Management and state-of-art infrastructure facilities of the Department, from the academic year 2017-18, M.F.Sc in Fisheries Resource Management programme is being offered by the Department with an intake capacity of two students per annum. Then on, the programme is offered following ICAR guidelines for the PG programme. The list of courses dealt in the degree programme is given below:

Sl.No.	Course No	Title of the Course	Credit Hours
Major course			
1.	FRM 501	Inland Fisheries Resources	3(2+1)
2.	FRM 502	Marine Fisheries Resource Management	3(2+1)
3.	FRM 503	Marine Ecosystem, Biodiversity and Conservation	3(2+1)
4.	FRM 504	Tropical Fish Stock Assessment	3(2+1)
5.	FRM 506	Remote Sensing and GIS for Fisheries Management	3(2+1)

6.	FRM 509	Feeding and reproductive biology of Finfish and Shellfish	3(2+1)
7.	FRM 512	Modern techniques in ichthyotaxonomy	3(2+1)
		Total	21 (14+7)
Minor course			
1.	FRM 505	Fisheries Regulations	3(2+1)
2.	FRM 508	Aquatic Floral Resources	3(2+1)
3.	FRM 510	Developmental biology of finfish and shellfish	3(2+1)
		Total	9 (6+3)

6.4.2. FACULTY STRENGTH:

The faculty strength of Department of Fisheries Resource Management is shown in the table below:

Sl. No	Name of the posts	Sanctioned strength	Staff in Position	No. of vacancy	Recommendation of V Dean's committee
1.	Professor	-	-	-	1
2.	Associate Professor	1	-	1	2
3.	Assistant Professor	2	2	-	3

One Associate Professor is vacant *

6.4.3. TECHNICAL AND SUPPORTING STAFF:

The details of technical and supporting staff in the department are as follows:

S.No	Name of the Department	Staff	Staff in position
1.	Department of Fisheries Resource Management	Lab technician	1
		Lab Attendant	1
		Assistant	1

6.4.4. CLASSROOMS AND LABORATORIES:

No. of class rooms available for PG programme: One smart classroom with facilities to use ICT tools

The Department is having UG Laboratory and PG Laboratory and also have separate museum for aquatic resources.

1. Infrastructure:

UG Laboratory



PG Laboratory



Museum

LABORATORIES AND EQUIPMENTS:

PG Laboratory FRM – 1

1. Dissection Microscope
2. Compound Microscope
3. Trinocular Microscope
4. Distillation unit
5. Refractometer
6. Thermometer
7. Digital pH Meter
8. Deep Freezer
9. Fridge
10. FRP Trays
11. Hot Water Bath
12. Microtome
13. Tissue Floation Batch
14. Heating mantle
15. Portable Electronic Balance
16. Mini Centrifuge
17. GelElectrophoresis Unit
18. Computer system installed with Software: Primer V7 (Biodiversity and stock assessment software)





RESEARCH DETAILS:

The faculty of the department has undertaken research projects on aquatic biodiversity assessment, biology of aquatic animals, impact of trawling on aquatic biodiversity, impact of large-scale cultivation of seaweeds on coastal environment, effects of Kisspeptin hormones on reproductive hormone levels in murrel, mullet diversity, reproductive biology of scats etc. In addition, a NADP scheme on “Generation of alternative livelihood options for fisherfolk towards aquatic biodiversity conservation” was also undertaken.

A. Students' Research –

M.F.Sc. (FRM):Completed

S. No	Name of the student	Title of the research
1.	Mr.M.Kishore Kumar U-18-TN-03-003-M-F-010	Biodiversity, biology and fishery of Elasmobranchs along the Coromandel coast of Tamil Nadu, Southeast India
2.	Miss. M. Kavipriya U-18-TN-03-003-M-F-009 (FRM)	Assessment of shellfish bycatch of trawlnet fishery of Chennai coast
3.	Mr. N. Moulitharan MFP17013	Ichthyofaunal diversity of Arani river, South India.
4.	Mr. P. Kodeeswaran MFP17012	Assessment of fish bycatch of trawl net fishery of Chennai coast

B. Completed Research Projects:

Sl. No.	Title of the Project	Year	PI & Co- PI of the Project	Funds (in Rs)	Funding Agency
1.	URP – Studies on Biology of Mullet from Pulicat Lake, Chennai	2016	R. Durairaja - PI	--	TNFU
2.	URP - “Reproductive biology of the spotted scat, <i>Scatophagusargus</i> (Linnaeus, 1766) from Tiruvallur and Chennai coast”	2017	Mr. R. Durairaja – PI	Rs. 30,000	TNFU
3.	Studies on Mud Crab Fishery InPulicat Lake	2016	Ms. G. LakshmeGaythree - PI	--	TNFU

C. Ongoing Project:

Sl. No.	Title of the Project	Year	PI & Co-PI of the Project	Budget(in Lakhs)	Funding Agency
1.	Artificial Coral Reef and Fish Aggregating Artificial Reef (FAAR) to enhance fish diversity and biomass in the sea near Pulicat lake towards fishing pressure reduction and livelihood improvement of fisher folk in the lake region	2020 - 2022	P. Pavinkumar (Co- PI)	430.66	TANII, TN Govt.

D. Research Project Proposal Submitted / Sanctioned:

Sl. No.	Title of the Project	Year	PI & Co- PI of the Project	Budget(in Lakhs)	Funding Agency
1.	Stock assessment of Siganids in Pazhaverkadu coast, Tiruvallur District	2021	P. Pavinkumar (PI)	-	TNJFU
2.	In situ propagation Centre for commercially viable edible seaweeds to enhance productivity in Tamil Nadu	2021	P. Pavinkumar (Co- PI)	246.84	PMMSY

6.4.5. CONDUCT OF PRACTICAL AND HANDS-ON-TRAINING:

The Department has two instructional farm centres located at distinct parts of the region and has various facilities for the different aquaculture practises and the students are

regularly taken to the centres for gaining first-hand knowledge in the subject. The instructional centres are ARFF (Advanced Research Farm Facility) located at Madhavaram contributing to research in commercially important freshwater species, and PRFF (Pulicat Research Farm Facility) located in the vicinity close to the second largest brackishwater lake (Pulicat) in the country for research in brackishwater species. Both of these centres are having very good infrastructure facilities with well-equipped laboratories (Microbiology, Water Quality Analysis) for the purpose of teaching and research. Research works are allotted to the PG students based on the identified thrust areas.

6.4.6. SUPERVISION OF STUDENTS IN PG PROGRAMMES:

During the course work, PG students' academic progress is being monitored by PG batch coordinator in the rank of Professor. In the second year (Research), progress of student's research is being monitored by the advisory committee comprising of Chairman and two advisors. The details of PG students since the inception of the programme in the Department is given below:

COMPLETED

S.No	Batch	Reg. No of the Student	Name of the Student	Research Topic	Name and designation of the Chair/ Major Advisor
1	2017-18	MFP 17012 (FRM)	Mr.P.Kodeeswaran,	Assessment of fish by-catch of trawl net fishery of Chennai coast	Dr. N. Jayakumar M.F.Sc.Ph.D. Associate Professor Department of Fisheries Resource Management

2	2017-18	MFP 17013 (FRM)	Mr. N. Moulitharan	Study on Ichthyofaunal diversity of Arani river, South India	Dr. N. JayakumarM.F.Sc.Ph.D. Associate Professor Department of Fisheries Resource Management
3	2018-19	U-18-TN-03-003-M-F-010	Mr. M. Kishore Kumar	Biodiversity, biology and fishery of Elasmobranchs along the Coromandel coast of Tamil Nadu, Southeast India	Dr. N. JayakumarM.F.Sc.Ph.D. Associate Professor Department of Fisheries Resource Management
4	2018-19	U-18-TN-03-003-M-F-009	Miss. M. Kavipriya	Assessment of shellfish bycatch of trawl net fishery of Chennai coast	Dr. N. JayakumarM.F.Sc.Ph.D. Associate Professor Department of Fisheries Resource Management

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS ETC.):

The academic sessions of the college are being assessed with feedback from the students regarding teaching through questionnaires and student counseling by PG coordinator and advisory committee.

6.4.8. STUDENT INTAKE AND ATTRITION IN THE PROGRAMME FOR LAST FIVE YEARS:

Name of the Degree Programme	Actual student admitted in last five years				Attrition (%)			
	2017-18	2018-19	2019-20	2020-21	2017-18	2018-19	2019-20	2020-21
M.F.Sc (FRM)	02	02	Nil	02	Nil	Nil	Nil	Current year

6.4.9. ICT APPLICATION IN CURRICULA DELIVERY:

Teaching through ICT tools is being followed for effective teaching by making use of the wi-fi campus facility and classroom environment. PG/Ph.D. student's advisory committee sometimes comprises of faculty from other constituent units (working outside the student's institute) of the University. Therefore, there is a monthly video conferencing among the advisory committee members to monitor the progress as well as to evaluate research credits of PG/Ph.D. programmes through online video conference mode.

Certificate

I, the Dean **Dr. B. Ahilan** hereby certify that the information contained in the Section 6.4.1 to 6.4.9 is furnished as per the records available in the college, and degree awarding university.


DEAN
Dr. MGR FC & RI
Ponneri - 601 204.

**Signature of the Dean of the college
with Date & Seal**



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2021