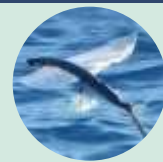




Flying Fish

Beyond horizon...



Message from



Dr. Shailash Nayak
Director

National Institute of Advanced studies
Indian Institute of Science Campus
Bengaluru, Karnataka.

I am happy that College of Fisheries (CoFM) is bringing out quarterly newsletter, highlighting the various activities of the college and also the developments/initiatives undertaken by the Department of Fisheries in the State of Karnataka. It is my privilege that I am able to provide foreword to this edition of the newsletter which has a worldwide circulation.

The CoFM was established in 1969 and has been carrying out research, development, academics and extension activities that has benefited not only the state of Karnataka but the entire country. The college since its inception for the last 50 years has been bringing out highly qualified fisheries and aquatic scientists having Bachelor degree, Master Degree and Ph.D's. The research wing in the college is very active and I am given to understand that the college has developed 4 economical varieties of fish and established improved the technology for aquaculture farming. Further, the college has one of the best post-harvest technologies and gear engineering sections where various value-added products of fish and shell fish are produced/developed. Till date the college has been specializing in its own domain which is academics and research.

Now, in view of the ongoing COVID-19 pandemic and subsequent lockdowns including closure of market areas has created distress among farmers and fishing communities, the CoFM has a larger role to play. There is a urgent need to improve and improvise the fisheries sector that can address the livelihood security of the fishing community and food security of the nation.

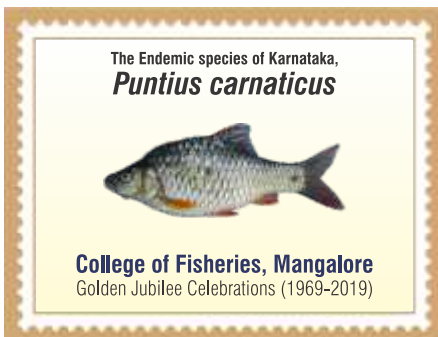
The State of Karnataka has around 320 km of coastline and 8000 ha of brackish water. This vast coastline along with the brackish water is well

IN THIS ISSUE

This issue highlights the activities, programmes and events undertaken by staff and students of the College of Fisheries, Mangaluru during the period **June to August 2020**.

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known for its marine and estuarine fisheries. Further, the state is blessed with vast inland water resources comprising of numerous reservoirs, ponds, lakes, tanks and over 20 rivers. This vast water spread area provides ample opportunity for developing fresh water aquaculture. The recently launched flagship project of Central Government, "Pradhan Mantri Matsya Sampada Yojana" provides ample opportunity for the state to develop fisheries in all the above water spread areas namely; marine, estuarine and fresh water in a big way.

In this endeavour, the CoFM is playing a crucial role in developing projects that address not only fisheries but also all the associated activities. Keeping in view the expertise in the College of Fisheries, Mangalore. The World Bank has assigned a short time contract "Rapid Assessment of Blue Revolution of Karnataka". The faculties in the college and the consultants are involved in the preparation of the said report that shall be a base document for the State of Karnataka to undertake various developmental activities in the area of fresh water and marine areas. Certain critical issues that the state is facing including in fisheries such as adverse impact of climate change, pollution of water bodies, salinization of land, salt

water intrusion in the farm areas, invasion of alien species, etc. are being addressed by College of Fisheries, Mangaluru in scientific and holistic manner. I am also happy to know that College of Fisheries, Mangaluru has been identified as a nodal agency by the State Government for preparation of an adaptation strategy for the fisheries sector to mitigate the adverse impacts of climate change. The College of Fisheries has prepared the report and submitted to the State Government which has been accepted. Based on the report I am sure the college will be able to obtain necessary funds from State and Central Government to develop adaptation strategies and provide livelihood securities to the fishing communities.

The State Government of Karnataka is also extending all assistance to the CoFM in order to develop the institution as one of the most reputed scientific research and academic body in the country. On the eve of Golden Jubilee Celebration of CoFM, I wish the college all success in coming future.



Date: 24 August 2020
Place: Mangaluru

SR Nayak
Shailash Nayak

Activities/Events

Release of postal stamp to commemorate the Golden Jubilee event of CoFM: 30.6.2020

The State of Karnataka has several endemic species of flora and fauna. The Western Ghats is one of the bio diversity hotspots in the world and it a home to several such flora and fauna. *Puntius carnaticus* is a fish species found in the eco-sensitive areas of the Western Ghats and considered as highly threatened based on its conservation status. To create awareness about this sensitive unique endemic fish of Karnataka a stamp and a first day cover bearing the picture of fish along with CoFM on the emblem was got printed by Indian Postal Department, Government of India. The stamp and the first day cover was released by Shri Kota Srinivasa Poojary, Minister for Fisheries, Ports and Inland Water Transport and District in-charge, Government of Karnataka in the presence of Shri D. Vedavyasa Kamath, MLA, Mangaluru South, Shri Diwakar, Mayor, Smt. Vedavathi, Deputy Mayor, Smt. Revathi Shyamasundar, Corporator, Hoige Bazarward, Shri Mohammed Nazeer, Managing Director, MSCL along with several invitees from Zilla Panchayath, Mangaluru City Corporation, staff of CoFM and MSCL. Read more: <https://bit.ly/3jJGru6>



Bhoomi pooja of the proposed “Skill development in fisheries and safety training centre” held at Technology wing campus of College of Fisheries: 30.6.2020

The Bhoomi pooja for the construction of “Skill development in Fisheries and Safety Centre” was held at Technology Wing of CoFM at Hoige Bazaar campus. Shri Kota Srinivasa Poojary, Minister for Fisheries, Ports and Inland Water Transport, Shri Vedavyasa Kamath, and other dignitaries were present at the function. The Mangaluru Smart City Limited (MSCL) is establishing the center with an estimated cost of 4.75 crore and is expected to be completed by December 2020. The Centre once established would create a state of art facility that would provide skill development programmes, hands-on training to fisherman community including women, unemployed youth and other communities. CoFM will be the nodal agency for imparting such technical skill and knowledge. Read more: <https://bit.ly/3jJGru6>



Release of Compendium of Research Publications, Golden Jubilee Symposium abstracts and “Flying Fish” newsletter

CoFM has brought forth a compendium comprising full length research publications and extension papers published in national and international journals during the last five years (2015-2020). This compendium is a ready reference and could be used by researchers. The compendium was released by Shri Kota Srinivasa Poojary, Minister for Fisheries, Ports and Inland Water Transport and several other dignitaries at a function in CoFM in the presence of Shri Vedavyasa Kamath, MLA, Mangaluru South.

A book of abstracts pertaining to the National Symposium entitled 'Addressing fishing community concerns in Integrated Coastal Zone Management: An emerging challenge', and the quarterly edition of newsletter “Flying fish” was also released on the same occasion.



National Fish Farmers Day 2020

On the occasion of National Fish Farmers' Day, a webinar on “Aquaculture: Alternative Livelihood and Business opportunities” was jointly organized by the Department of Fisheries and CoFM, Mangaluru on 10th July 2020. The webinar was inaugurated by Shri Kota Srinivas Poojary, Hon'ble Minister for Fisheries, Ports and Inland Transport and hosted by Dr. Shivakumar Magada, HOD, AEM Department at CoFM. Speakers at the webinar were Shri Ramakrishna, Director, Shri Ramacharya, Department of Fisheries and eminent Fishery Scientist and Practitioners all across the world participated in the seminar. The experts included Dr D Seenappa, Aquaculture Expert, Dr Azad Ismail, Fisheries Scientist, Kuwait, Progressive fish and shrimp farmers Dr. Manoj Sharma, Shri Sunny D'Souza, Shri Jagadeesh Ningappa, Shri Neelkanth Mishra, Dr Ramaiah, Dr CK Murthy and staffs of CoFM. The webinar was attended by over 100 participants who shared their experiences and knowledge in their respective field and assured all assistance to CoFM for its development.

Flood assessment carried out by College of Fisheries in Dakshina Kannada in 2019

In 2019, many coastal areas of Karnataka witnessed severe flooding and heavy damage due to heavy rainfall during the monsoon period. To assess the damage to livestock and fisheries in Dakshina Kannada, the CoFM had deputed five teams which visited Mangaluru, Bantwal, Belthangady, Puttur, and Sullia Taluks and worked in coordination with the Department of Animal Husbandry. The detailed assessment report and recommendations of the teams was submitted by the College to the Karnataka Veterinary, Animal and Fisheries Sciences University (KVAFSU) on a weekly basis.



The major recommendations include;

1. Establishment of permanent drinking water and animal husbandry facilities.
2. State veterinary, animal and animal husbandry department may be provided with animal ambulance in taluk wise with all necessary facilities in order to treat the affected livestock.
3. CFTRI and DFRL, Mysuru may be assigned the work of preparing and packaging nutritious and energy rich ready to eat foods for distribution among families during calamities
4. Suitable plantations to be carried out in all the eroded/landslide areas by planting fast growing species.
5. Volunteers must be registered in colleges and other institutes so that they could be given expert training on handling of different disaster situations



The CoFM sincerely hopes that these recommendations/suggestions have been taken into consideration and steps taken for implementing the same. Should such a situation arise, the College is alert and ready to support the community and the State government for any kind of assistance.

Activities

Pradhan Mantri Matsya Sampada Yojana (PMMSY) - A step towards “Athmanirbhar” in fisheries development

Marine Fisheries and inland aquaculture are an important source of employment and income in India. The sector provides livelihood to more than 25 million fishers and fish farmers. The fish production in India has registered an average annual growth of 7.53% during last 5 years and stood at an all time high of 13.58 lakh metric tons during 2018-2019. Foreseeing the immense potential for development of fisheries and for providing focused attention to the sector the government in its union budget has announced a new scheme the Pradhan Mantri Matsya Sampada Yojana (PMMSY). This scheme is in line with the government's aim to double the farmers' income by 2022-23. Pradhan Mantri Matsya Sampada has been approved at an estimated investment of Rs.20,050 crores comprising Central share of Rs.9407 crore, State share of Rs 4880 crore and beneficiaries contribution of Rs 563 crores.

Karnataka State has over 9.74 lakh fishers, (inland 6.46 lakh, ~66% and marine 3.28 lakh, ~ 44%) of which only about 2.96 lakh (inland 1.39 lakh ~ 47% and marine 1.57 lakh, ~ 53%) are actively involved in various activities of the sector. The contribution of the Fisheries Sector to GSDP at current prices during 1993-94 was Rs 163.16 Crores and it has increased to Rs 6,996 Crores in 2018-19. Though Karnataka bestowed with vast availability of inland water bodies, brackish water areas it is not utilised to its full potential. Hence, the gaps present in utilization of the resources and doubling of farmers income could be done by implementing PMMSY in the state which will address the issues with the following strategies. Project proposals are prepared and submitted to the Central Government for funding support under PMMSY. College of Fisheries Mangaluru has been instrumental in developing certain projects concerning to the fisheries in Karnataka and submitting the same to Department of Fisheries, Government of Karnataka.

Following activities have been proposed :-

Production and productivity enhancement activities

Aquaculture

- Expansion of area coverage under farming
- Resource augmentation by taping the unutilized/underutilized water bodies
- Priority for scientific management and input-based fish culture.

Reservoirs Fisheries Development

The major emphasis is on co-management of reservoirs for sustainable fish production and ensuring livelihoods of communities living on the periphery of the reservoirs.

Fish Seed Production

- Establishment of State level brood bank for breeding genetically superior species, breed improvement.
- Up-gradation of existing state fish seed production and rearing farms.
- Increase seed rearing farms under the private sector.
- Fish seed farms to supply of seed of Tilapia, Pangasius, Murrels, Freshwater prawn and other approved species.

Brackish water fisheries

Currently, there are no backwater fish production centres in the state. As a result, the state's fish farmers depend on fish farms in neighbouring states of Andhra Pradesh, Kerala and Gujarat. In view of these factors, establishment of a fish rearing centre is needed.

Post-harvest, Infrastructure and Fish Marketing

- Support is extended for establishment of modern and hygienic fish kiosks chain focusing on major metro cities and tier two cities.
- Establishment of hygienic and clean fish markets needs to be facilitated with more private participation.
- Private investment into aquaculture activities is encouraged to minimize market vulnerabilities.

Other activities involving ornamental fish production and marketing, sport fisheries, small fisheries extension system and training, fisheries management and welfare to be promoted.

College of Fisheries Mangalore will be engaged in technology upgradation programmes, skill development activities and initiating pilot projects.

Fisheries Research/Publications

1. Puri K., Senthil Vel A., Manoharan A. N., James R.A. and Joshi R. 2020. Pro-environmental attitude and behaviour of rural students - a case study from Bhopal, Madhya Pradesh, India. *Int. J. Sci. Nat.* 11: 39-40.
2. Assana K., Mridula R., Rajesh K.M. and Shaik T.A. 2020. Length-weight relationship, feeding traits and nutritional value of Mahi mahi (*Coryphaena hippurus*) in the south-eastern Arabian Sea. *J. Environ. Biol.* 41: 776-781.
3. Puri K., Senthil Vel A., Manoharan A. N., James R.A. and Joshi R. 2020. Assessing behaviour and attitude of school students towards environmental issues - A Case Study from Delhi, India. *Int. J. of Edu. Appl. Soc. Sci.* 11: 25-29.
4. Mangesh M. B., Suryawanshi U.A., Somashekar S.R. and Manjulesh P. 2020. Induced breeding and embryonic development of Rosy Barb *Puntius conchonus*, (Hamilton, 1822) using synthetic hormones under captive condition. *J. Exp.Zool., India.* Vol. 23(2) E-ISSN: 0972-003
5. Kishor C., Naik A.T.R. and Manjulesh P. 2020. Primary productivity and chlorophyll-A content in coastal and malnad aquaculture farm ponds in Karnataka. *J. Exp.Zool.,India.* Vol. 23(2) E-ISSN: 0972-0030

Fish Facts - Longheaded Eagle ray (Local name: Hakkitorke)



- Eagle rays are distinguished by its comparatively long beak-like snout and awhip-like tail, three times as long as its body
- The long-headed eagle ray inhabits coastal shallow waters, brackish waters and tropical and subtropical estuarine environments
- Eagle rays use their shovel-shaped snout, to excavate mud and sand when hunting for benthic invertebrates
- Eagle rays use plates of interlocking teeth on their upper and lower jaws to grind away like a mortar and pestle at their hard-bodied prey. They feed on crustaceans, cephalopods, echinoderms, and small bony fish
- Eagle rays can attain a size of around 70 kg with adult females attaining larger sizes than males
- An eagle ray's stinger secretes venom that causes intense pain, often followed by bacterial infection in humans
- Eagle rays are believed to live for as long as 25 years
- Females give birth to between 1-5 pups per litter which, when born, already have a wingspan equivalent to the length i.e. 44 inches.
- Eagle rays are considered Endangered according to International Union for Conservation of Nature's Red List

Scientific name : **Aetobatus flagellum**
 Class : **Chondrichthyes**
 Order : **Rajiformis**
 Phylum : **Chordata**
 Family : **Myliobatidae**
 Genus : **Aetobatus**

Staff and Student News

Salute to brave heart of CoFM:

Mr.YadavShriyan, a staff of College of Fisheries Mangaluru along with Mr.Suman rescued a youth from drowning in the turbulent waters of the sea atGuddekopla, Surathkal on June 28, 2020. The fire service staffs and Karavali Rescue Team were not successful in rescuing the youth. However, these two brave hearts risking their live managed to save the drowning person. Read more: <https://bit.ly/3gqdhOf>



Superannuation:

Dr. E.G Jayaraj, Professor and Head (Department of Aquaculture CoFM superannuated on 31.07.2020. CoFM wishes him a happy retired life!



Dean's Desk

On account of COVID-19 almost all economic activities have come to standstill or have slowed down, except health sector, agriculture-fisheries and allied activities. Even during the lockdown, the staff of College of Fisheries have been working tirelessly and have developed almost 25 project proposals that have been posed for assistance. Fisheries Department, Government of Karnataka has agreed to these proposals and have forwarded to Ministry of Fisheries and NFDB for extending assistance under PMMSY. Further the staff have been fully involved in preparation of project titled "Rapid assessment of Blue Revolution of Karnataka". I am sure with this kind of dedication the college will reach greater heights in the coming future.

I will be extremely happy to receive comments and suggestions at the below given feedback email.

We're on the Web! www.cofm.edu.in
 Suggestions and feedback to newsletter@cofm.edu.in

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