



# FISH AND FISHERIES

NEWS LETTER OF THE FISHERIES TECHNOCRATS FORUM - MADRAS

September 1994

Number 3

## THE AQUACULTURE FOUNDATION OF INDIA

### MEMORANDUM OF ASSOCIATION

1. Name of the Society: THE AQUACULTURE FOUNDATION OF INDIA. diseases affecting aquaculture with a view to contain and control them;
2. Objects of the Society :
  - a) To act as an apex agency / institution for the healthy development of aquaculture industry in India;
  - b) To function as an intra-industrial forum for formulating quality standards in inputs used in the industry, production, processing and packing and to ensure strict adherence to such standards;
  - c) To work for the development of the necessary infrastructure and to co-ordinate the supply of inputs required for the aquaculture industry;
  - d) To set up centres of excellence in aquaculture where state of the art technology and cultivation methods for various species could be pooled in from all over the world and to make it available to the farmers and entrepreneurs after carrying out due modifications to suit to the local conditions;
  - e) To undertake research for developing healthier breeds of various suitable species and superior methods of farming in aquaculture, on processing and packing and on the various
  - f) To conduct extensive manpower development programmes on both biological and engineering aspects so that enough number of adequately trained technicians, supervisory and managerial personnel are available to the aquaculture industry on a sustainable basis;
  - g) To set up educational institutions, training centres, research laboratories and model demonstration farms with necessary infrastructure to impart knowledge on all aspects of aquaculture industry through suitable educational and training programmes;
  - h) To act as a spokesman of the aquaculture industry and to represent the problems of the farmers, entrepreneurs and industries to the Government and the Governmental agencies;
  - i) To assist the Government and other agencies in formulating suitable policies for the healthy growth of aquaculture in India;
  - j) To set up a marketing consortium to protect the interests of domestic and export markets;

- k) To set up an extension of International Standards Institutes affiliated to F.D.A., S.I.S.I.R., D.I.N. etc., to ensure that the marine and aquatic products from processing plants and value added manufacturing plants do conform to International Standards facilitating global marketing;
  - l) To set up a modern data base facility for the purpose of providing speedy access to the latest information and inputs in aquaculture and trade;
  - m) To publish journals, periodicals and literature on all aspects of aquaculture industry;
  - n) To promote satellite aquaculture farms with the necessary infrastructure leading to harmonious and integrated development of coastal areas;
  - o) To formulate suitable measures to deal with environmental issues cropping up in the industry;
  - p) To strive to develop aquaculture and means for generating large scale employment in the rural areas and to improve their earning capacity;
  - q) To arrange for conferences, seminars and symposia on various aspects of aquaculture and for popularising this industry through suitable publicity campaigns;
  - r) To formulate a code of fair business practices for the members; to monitor strict adherence by the members in their business dealings and to set up an Arbitration Tribunal for the speedy redressal of any disputes and grievances;
  - s) To raise resources to carry out the objects of the Foundation through membership fees, subsidies, grants, donations, loans and by collecting fees for technology services;
  - t) To do all acts, deeds and things necessary for the attainment of the above said objects of the Foundation;
  - u) The Foundation shall not carry on any activity with the intention of earning profit;
  - v) The benefits of the Foundation shall be open to all, irrespective of caste, religion, sex, etc.;
  - w) No activity of the Foundation shall be carried outside India.
3. a) The name of the Society shall be "The Aquaculture Foundation of India".
- b) The address of the Registered Office is: A-5, Ranga Reddy Gardens, Neelangarai, Madras - 600 041.
- c) The Society was formed on June 25th, 1994 and registered on July 29th, 1994.
- d) The Society is within the jurisdiction of the Registrar of Societies, Madras South.
- e) The Business hours of the Society shall be from 10.00 a.m. to 1.00 p.m. and 2.00 p.m. to 5.00 p.m. on all working days except Sundays and all State Government Holidays.
- 4. Enrolment of Members**
- a) All individuals, firms, corporate bodies, public and private sector undertakings, Government Establishments / Offices and other agencies engaged in the business of aquaculture or any other activities connected with the aquaculture industry shall, subject to what is provided in these rules, be eligible to become members of the Foundation.



- b) Application for membership shall be made in the form prescribed by the Executive Committee.
  - c) The application for membership shall mention the class of membership in which the applicant desires to be a member and it shall be (except for honorary membership) accompanied by the prescribed entrance fee along with an amount equal to the annual subscription for that class of membership.
  - d) The President will have the absolute discretion to accept or reject any application for membership without assigning any reason for refusal or acceptance.
  - e) The Person whose application for membership is accepted will be deemed to be a member from the date the application is accepted and such person will be bound from such date by these rules and regulations and as may be amended from time to time.
  - f) The Foundation shall have the following classes of membership.
    - i) Member - Tiny Sector
    - ii) Member - Small Scale
    - iii) Member - Medium Scale
    - iv) Member - Large Scale
    - v) Corporate Member
    - vi) O.B.C. Member
    - vii) Entrepreneur Member
    - viii) Institutional Member
    - ix) Student Member
    - x) Life Member
    - xi) Honorary Member
5. a) There will be a President, Vice-President, Secretary and Treasurer, an Executive Committee and Advisory Committee. There will be a Chief Executive Officer.
- b) The President may be contacted for details of
- i) the nature of membership, definition and fees and
  - ii) any other information on the constitution of the Foundation.

The blood of Horse-shoe crab, a living fossil having a selective geodistribution (In India found along Orissa and West Bengal coasts) is so important to medical science that 250 to 300 ml. of its blood fetches a price of 50 to 60 thousand rupees. The amoebocyte extract of the crab's blood is accepted as the most sensitive test for endotoxins, facilitating formation of clot to prevent loss of blood.

To develop a modern dynamic environmental policy it is important to have a clearly identified and auditable procedures in order to answer the concern of interested parties and potential critics.

About 78,000 t. of pesticides and insecti-cides are used in India annually of which one third is by Andhra Pradesh. 25% of these substances are estimated to finally reach the sea and 0.1% of total quantity used is bioaccumulated in the marine biota.

## BIOLOGICAL CONTROL OF MOSQUITOES

More than fifteen species of *Anopheles* are known to exist in India. They thrive in brackish waters as well as in fresh waters. They occur in all types of inland waters of plains, forest areas and mountain regions. However, wells especially those in constant use are not conducive for intense breeding of mosquitoes. Only abandoned wells, defective overhead tanks with unfiltered water, pits, cattlesheds, drains etc. provide breeding site for them. The mosquitoes are known to tolerate temperatures ranging from 32 to 44° C and pH of 7.2 to 9.0. They thrive under low oxygen conditions and even under anoxic conditions. Mosquito larvae are associated with weeds such as species of *Lemna*, *Pistia stratiotis*, *Hydrilla verticillata*, *Ceratophyllum demersum*, *Eichornia*, *Crassipes* etc.

For mosquito control, chemical insecticides were developed and DDT used on a wide scale only after the second world war. This has led to an ecological imbalance. Human food stuffs are tainted with DDT, causing genetic abnormalities and health hazards. The mosquitoes have developed immunity and have reappeared with a vengeance.

In this context, we have to go "back to the basics" i.e. Nature. Prior to the arrival of exotic synthetic chemicals like DDT, aldrin, organo phosphorus insecticides, we have been using phytochemicals like Pyrethrin, neem oils etc. for tackling pests. Biological control or eradication has been in vogue for a long time. The candidate species for mosquito control should be (1) small in size so that they can survive in shallow waters (2) hardy (3) difficult to catch so as to escape human and piscivorous predation (4) useless as food (5) surface feeder and (6) predatory insectivore and larvivore. Among the various larvicidal fishes,

*Gambusia affinis*, *Aplocheilus (Panchax) blochii*, *Labistes reticulatus*, *Oryzia melastigma*, *Carassius auratus* are found to be effective. They are also ecofriendly and environmentally compatible. Large scale free supply of the said first two species were made by the then Madras Fisheries Department even in early twenties from the various fish farms established for this purpose. Since the mosquitoes breed and thrive in thickly vegetated waters, eradication of such aquatic weeds is conducive for their control. *Puntius pulchellus* (native species) Grass Carps, *Tilapia zillii* and *T.rendalli* are useful in this respect. Some water insects (Hemiptera and Coleoptera) and frogs also feed on mosquitoes.

It has been suggested by some quarters that the wells, overhead tanks, sumps etc. should be closed and sealed for mosquito control. It is well known that mosquitoes are creatures that thrive in darkness. They do not breed in shallow waters fully exposed to sun. When light is excluded and oxygen supply is cut off, fish will die. Sealing the wells, tanks etc. will lead to anaerobic conditions and production of foul gases like hydrogen sulphide. Hence it is felt advisable not to implement the aforesaid suggestion. It is a fact that during the life cycle, the mosquitoes pass through a larval stage before emerging as winged insects. Therefore instead of resorting to sealing the wells etc. it would be advisable to use covers or lids of suitable mesh size. Thus biological control through appropriate larvicidal fishes and provision of suitable meshed covers for wells, overhead tanks etc. appear to hold promise of a safer method to check the mosquito menace on the domestic front.

A. Sreenivasan

## FISH AND CHIPS

### Quotes from recent reports

- \* The Tatas had to abandon their joint venture prawn farming project at Chilka Lake due to environmental activists, but the prawn mafia is still going strong roping in lobbies to queer the pitch for environmentalists.
- \* The ship-breaking industry to be set up near Mangalore is causing concern to environmentalists and prawn culturists there.
- \* The palaeontologists working in Pakistan have discovered fossils that are upto 52 million years old which lend support to a long held belief that whales evolved from land mammals.
- \* Mr. Thomas Kocherry, a prominent leader of Kerala Fisherfolks views that deep-sea fishing in India is already a flop, as in the case all over the world.
- \* *Hilsa*, a favourite fish of West Bengal is found to provide effective cure for heart ailments.
- \* Remote techniques for locating demersal fishery resources in the N.E. Coast of India for the 1988-93 period revealed that unusually high concentrations of shrimps occurred at the centre of cyclonic eddy.
- \* The Tamil Nadu Fisheries Development Corporation has plans to buy a Japanese vessel for tuna fishing at a cost of Rs.120 millions.
- \* The Madurai Kamaraj University School of Energy has developed a biological method, involving fish culture, for treatment of sewage which gives water of quality close to drinking water standards.
- \* Shrimp farms in Andhra Pradesh are facing a lot of problems as several kinds of diseases have spread in culture ponds of the area.
- \* The quality of shrimp feed has been falling day by day owing to unhealthy competition among the feed manufacturers.
- \* Cage culture of an exotic species viz. *European Sea Bass* and *Sea Bream* is expected to commence in the Andaman Sea.
- \* Two foreigners were caught recently at the New Delhi Airport while attempting to smuggle out 30,000 butterflies for research in American Universities on chemical derivatives from butterfly wings that could be used for treatment of cancer.

### OBITUARY

The Fisheries Technocrats Forum deeply mourn the passing away of Dr. T.A. Mammen Retd. Joint Commissioner (Fisheries) Govt. of India on 19-06-1994 at New Delhi.

The Fisheries Technocrats Forum deeply mourn the passing away of Dr. R. Raghu Prasad, Retd. Asst. Director - General (Fisheries) ICAR on 20.07.1994 at Thiruvananthapuram.



- \* Large Scale deforestation is posing a major threat to Pitchavaram Mangroves, a unique ecosystem in Tamil Nadu, which has a wide range of species unlike other mangrove forests in the country which consist of only one or two species.
- \* The Soil Salinity Research Centre has developed a variety of paddy which gives higher yield under saline soil conditions when tested during samba season in 81 locations of the various districts of Tamil Nadu.
- \* A survey of sea food industry revealed global demand - supply gap of 20 million t. by the end of this century.
- \* With a shortage of raw materials imminent, industrial and agricultural wastes would be adopted as building materials in a big way since they contain basic construction elements capable of being processed into useful building materials.
- \* The 'rice bowl' of Tamil Nadu is facing the grave danger of seepage of salt water and toxic effluents from the mushrooming prawn farms.
- \* Kerala has become the first State in the country to have a fisheries policy which seeks to bestow the status of agriculture on fisheries, restrict the right of membership of fishing assets to bonafide fishermen and regulate fishing, fish marketing and leasing of water bodies for fish farming.
- \* The Union Ministry of Environment and Forests has initiated a Rs.8 lakh project to study the impact of effluents discharged from aquaculture ponds in the coastal belt from Nellore to Kanyakumari.
- \* The European Commission is to enforce its directives on import of marine foods from January next which is likely to affect the Indian exporters.
- \* India's thermal power plants burning coal for electricity might be spewing many tonnes of highly toxic mercury into the environment.
- \* The National Fish Workers Forum observed a 'black day' on 20.7.1994 to protest against joint venture fishing in EEZ and proposes to launch a national wide indefinite strike from November 23rd on grounds that 7.5 million fish workers of the country would be adversely affected.
- \* The unprecedented boom in aquaculture in the Nellore District, has, though, brought in economic prosperity, made the life of the villagers living close to the shrimp farms, miserable since the drinking water has turned saline and the villages have become uninhabitable.
- \* Proper application of microalgae can transform nation's economy especially in emerging areas like aquaculture feed, nutrition supplements to human food, improved yield of lactating animals and cosmetic industry.
- \* The Madras University Department of Zoology has developed a technique for cryogenic preservation of gametes, embryos and larvae of the prawn *Penaeus*

*indicus* in liquid nitrogen which should have considerable economic value in aquaculture, once the technique is commercialised.

- \* The Fisheries University of Tokyo has offered to transfer all the updated

technology to the Tamil Nadu Veterinary and Animal Sciences University for launching an academic programme in the processing and packaging of prawns and fishes now being exported from Tamil Nadu to Japan in a semi processed condition.

The Union Environment and Forests Ministry has framed an order to ban the export of all genetic materials in order to promote the conservation and sustainable use of genetic resources and prevent commercial exploitation of India's biodiversity riches by powerful overseas interests.

The known and estimated global biodiversity wealth covers 30 million insects, 400000 higher plants, 21000 fish and other species which are for the most part concentrated in the developing countries and unexplored regions.

*With the compliments of :*

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*With Best Compliments From :*

**THE AQUACULTURE FOUNDATION  
OF INDIA**

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**The Fisheries Technocrats Forum**

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