

वार्षिक प्रतिवेदन
Annual Report
1997-98



केन्द्रीय मत्स्य शिक्षा संस्थान

**Central Institute of Fisheries Education
(Deemed University)
Seven Bungalows, Versova
Mumbai - 400 061**

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1. Preface



S. A. H. ABIDI
DIRECTOR

It gives me immense pleasure to present this Annual Report (1997-98) which reviews and documents the progress registered by CIFE in its multifarious activities during the bygone year.

As the first Deemed University of Fisheries in the country, the CIFE has played and continues to play dominant innings in triggering off 'Blue Revolution' in the country, particularly by way of its valuable contributions towards human resource development. The bygone year was significant in the history of CIFE in more than one way. Several prestigious awards and honours were deservedly conferred upon CIFE, individually and institutionally. This is a real testimony of the peerless contributions of the members of CIFE Parivaar. Towards providing the much needed ambience for the pursuit of intellectual endeavours of education, research and extension in fisheries, infrastructural development was initiated on a war footing at CIFE since last year. These initiatives have resulted in the inauguration of the New Campus of CIFE Centre at Salt Lake City, Calcutta and commissioning of the nation's first ever ultra modern Laboratory on Aquatic Biotoxinology.

The regular academic programmes and the CAS training programmes, in addition to the extension training courses, were successful in developing a manpower force of more than 350 persons ready to shoulder the scientific, managerial, technical and entrepreneurial responsibilities of fisheries development in India. The research programmes too yielded satisfactory

results. The salient findings of the *ad-hoc* study jointly taken up by the CIFE, Mumbai and the CIBA, Chennai went a long way in restoring the prestige of coastal aquaculture. While a few projects were cleared during the year for funding by DOD, AP Cess Fund, etc. several new ones, on the philosophy of collaborative R&D, are in the pipeline in the wake of signing of MoUs with the NIO, Goa and M/s. Aquazona Exports Ltd. New Delhi. Several publications brought out during the year were very well received by the fisheries personalia.

CIFE amply displayed its visionary approach to the development of fisheries in India by organising a National Seminar on the most appropriate theme *Vision on Indian Fisheries of 21st Century* at a very opportune time. Several other professional meets were also organised to provide a common platform to deliberate upon the critical issues and to draw strategies to propel Indian fisheries into the 21st Century in the right perspective.

The credit for the overall success of CIFE in all its endeavours goes to the members of CIFE *Parivaar*. Their continued involvement, commitment and cooperation coupled with the new initiatives being taken on collaborative programmes, faculty strengthening and infrastructure development, I hope, will catapult CIFE into the global fisheries map as a dynamic seat of higher learning and research.

Mumbai

Dated 01 April, 1998

2. Executive Summary

Established as a Government of India institute mainly to impart postgraduate training to inservice fisheries personnel way back in 1961, the CIFE, Mumbai, has traversed many a mile since then and has made several significant contributions in the fields of fisheries education, research and extension. With the conferment of Deemed University status on CIFE, Mumbai, in 1989, its role, particularly in the area of fisheries education has become far more important. Towards this end, the Institute is taking lead towards standardising the system of fisheries education in India. A brief summary of the salient achievements of the Institute during the year 1997-98 is presented below :

All the academic programmes offered by CIFE at its headquarters, centres and at CMFRI, Cochin progressed satisfactorily. A total of 97 students successfully completed their studies from CIFE during the year, which comprised 50 in M.F.Sc., 34 in D.F.Sc., and 13 in PG Certificate Course. New enrolments during the year totalled 126 covering 24 for Ph.D., 46 for M.F.Sc., 19 for D.F.Sc., and 37 for PG Certificate Course. The academic programmes were well supported by a series of guest/special lectures, field visits, study tours, etc. Two advanced training programmes were conducted under the CAS scheme in Fishery Science in operation at CIFE on the topics " Modern

Approach to Aquafeed Formulation and Onfarm Feed Management" and "Culture of Live Food Organisms for Aquahatcheries", under which a total of 29 candidates, mostly teachers, scientists, managers and bank personnel, were trained.

The research agenda of CIFE was pursued through Institutional Research Projects, Externally Funded/Sponsored Research Projects, *ad-hoc* studies and student research programmes. Significant research achievements of the year included a couple of *ad-hoc* studies, one on assessment of ground realities regarding the impact of shrimp farming on coastal ecology of Andhra Pradesh and Tamil Nadu which was taken up by a joint team of experts from CIFE, Mumbai and CIBA, Chennai, and the other on *Singhara-cum-fish* culture. The former study surveyed the opinion of shrimp farmers, villagers, officials of State Fisheries Department and other concerned agencies of six districts each from Andhra Pradesh and Tamil Nadu besides 48 and 26 shrimp farms from the above states respectively. The study revealed that positive impacts of shrimp farming on coastal ecology outweighed the negative impacts and that the negative impacts were of minor concern which could be tackled easily. The latter *ad-hoc* study highlighted the possibility of improving the economics

of water bodies under *Singhara* cultivation by taking up *Singhara*-cum-fish culture. The effectiveness of ozone in controlling bacterial and fungal infections of the post-larvae of *Penaeus monodon* was established in another *ad-hoc* study. Six new projects were approved during the year under external funding. The work under all the institutional and externally funded/sponsored projects progressed satisfactorily during the year. The MoUs signed by CIFE, Mumbai with the National Institute of Oceanography (CSIR), Goa and M/s Aquazona Exports Ltd., New Delhi have already initiated several works on taking up collaborative research in the areas of oceanography, aquaculture, aquatic environment, breeding and culture of ornamental fish, etc. Efforts were also initiated under the National Agricultural Technology Project (NATP) on fish production using brackishwater under arid ecosystem in collaboration with the Central Institute of Brackishwater Aquaculture, Chennai.

Entrepreneurial development through short term and long term trainings continued to be the main thrust of extension programmes of CIFE. Under a total of 15 such programmes conducted during the year on a host of topics on fisheries technologies, 237 candidates were trained. The meetings of the Fishery Advisory Service were convened regularly for the benefit of fishermen, aquafarmers, entrepreneurs, etc. CIFE and its Centres

actively participated in three important national and regional exhibitions besides organising four exhibitions in an effort to popularise fishery science and technology.

A total of five institutional consultancy projects were taken up during the year and the clients were ONGC, Goa, M/s.Hemmo Pharma Ltd., Mumbai and the Department of Fisheries, Government of Maharashtra. Subject specific technical assistance was also rendered to many private agencies, farmers, fishermen, etc.

Infrastructural development received a real boost during the year. While the new complex of the CIFE's Calcutta Centre at Salt Lake City in Calcutta was inaugurated, a new Aquatic Biotoxinology Laboratory, the first of its kind in India and Matsyalok, the aquarium room, were added to the fast developing assets of the institute. A number of renovation works were also taken up to give a facelift to the facilities like laboratories, scientists' rooms, transit house, playground, etc.

CIFE continued to organise or host seminars, meetings, workshops, etc. on various aspects of fisheries and allied sciences. The important ones were the Meeting of the Deans' Committee of Fisheries Colleges in India, Meeting-cum-Workshop on Information Website, Hindi *Karyashala*, National Seminar on Vision on Indian Fisheries of 21st Century, etc.

The year 1997-98 brought lot of laurels and accolades to the Institute as several awards, honours, recognitions were befittingly crowned on the family of CIFE. Dr.S.A.H.Abidi, Director was honoured with Plaque d'Honour award; Dr.A.D.Diwan, Principal Scientist was bestowed a Fellowship by the Society of Nature Conservators and Society of Bioved Research; Dr.(Ms) Kiran Dube, Senior Scientist was awarded Dr. Rajendra Prasad Puraskar by the ICAR for the Hindi book entitled *Matsya Jaiviki*; Dr.S.Jahagirdar and Dr.B.B.Nayak, Scientists were awarded gold medals for their outstanding academic performance in Ph.D. by the University of Agricultural Sciences, Bangalore. The team of CIFE Centre of Lucknow bagged several prizes in a state level science exhibition. The CIFE sports team tasted the first major success in the ICAR Zonal Sports Tournament held at CIAE, Bhopal, by winning as many as 14 prizes. Mrs.Nalini Poojari, in particular, brought glory to the Institute by winning the "Best Woman Athlete" prize due to her excellent allround performance. The CIFE Sports Team was declared the III best team of the Tournament. *Matsyoday* (1995-96), the annual Students' Magazine of CIFE,

published during the year was adjudged as the FIRST best at Regional (Western) level and the SECOND best at National level amongst the students' magazines of Indian Universities.

The bygone year turned out to be the "Year of Publications" for CIFE. Several prestigious publications like the *Perspective Plan*, Proceedings of the National Seminar on Fisheries Education in the form of a book entitled *Fisheries Education in India*, a colourful informative brochure on CIFE, a booklet on *Consultancy and Contractual Services*, Abstracts of Students Dissertations (bilingual), *Jalchari* (in Hindi) and a number of training/course manuals were brought out during the year.

Other activities such as human resource development, extracurricular and student welfare activities, official language implementation, festivities and celebrations were pursued/observed satisfactorily like in previous years.

The eventful year of 1997-98 towards its dusk saw the week-long celebrations of the Golden Jubilee of India's Independence in the form of a series of meaningful programmes.

3. Introduction

The Central Institute of Fisheries Education (CIFE) was established at Bombay on the 6th of June 1961 as a Government of India institute. The main objective of setting up CIFE was to provide post-graduate training in fishery science to the inservice fisheries personnel in the form of a Post-Graduate Diploma in Fisheries Science (D.F.Sc.) The Institute, initially functioning in the premises of the Institute of Sciences, Bombay, was later shifted to a rented building at Masjid Bunder, Bombay, in 1964. In March 1967, the CIFE moved to its present campus at Seven Bungalows, Yari Road, Versova. The Indian Council of Agricultural Research (ICAR) took over the administrative control of CIFE on 01 April, 1979.

Started as a small training institute with just three divisions and a staff strength of 16, the CIFE, over the past four decades, has grown phenomenally in its stature as well as status, making significant contributions to the fast developing fisheries sector of India. CIFE has played a significant role in fisheries education right from its very inception and in the process has contributed a vital input to fisheries development in the form of a scientifically trained manpower force of over 4000 persons hitherto. This output of CIFE consists of over 100 persons from foreign countries.

In due recognition of its significant contributions in the areas of fisheries education and training, the institute was befittingly crowned with the coveted status of a Deemed-to-be-University on 29 March, 1989 by the ICAR, the University Grants Commission and the Ministry of Human Resource Development, Government of India.

Apart from its striking academic contributions, CIFE has contributed several noteworthy research inputs for fisheries development in the form of carp hatchery models with high degree of structural flexibility, successful use of Human Chorionic Gondotropin (HCG) and LH-RHa in carp breeding programmes as alternatives to fish pituitary, development of high-tech device for intensive rearing of carp spawn, development of methods for culturing live food organisms and preparation of formulated fish diets, development of hatchery techniques for prawn and shrimps, successful use of ground saline water ponds for aquaculture, besides useful contributions in the areas of fish genetics, aquatic biotoxinology, fish pathology, etc.






In the area of fisheries extension and technology transfer, the CIFE's contributions were highly impact making.

Through its short and long term training programmes aimed at entrepreneurship development for fisheries, the Institute has so far trained nearly 5000 persons from all over the country. The training programmes conducted at its Centres at Kakinada and Balabhadrapuram aquafarms, in particular, were instrumental in the establishment of a number of fish farms along the coast of Andhra Pradesh, which initiated of a boom in coastal aquaculture. By virtue of its high calibre expertise and formidable infrastructure, the Institute has successfully offered many consultancy services to government and private organizations. These apart, the Institute has always shown its genuine concern towards standardising the system of

fisheries education in India and other critical issues related to fisheries development by organising several seminars, conferences, symposia of regional, national and global significance. The conferment of Deemed University status on CIFE brought in several new developments, the significant ones being the students welfare, infrastructure development, collaborative R&D, etc.

With a very eventful history of nearly 37 years, CIFE stands as a vibrant academic institution in the world fisheries map and continues its pursuit of wisdom and excellence in the area of fisheries education, research and extension.

Mandate






-  To conduct education and research programmes leading to post-graduate (M.F.Sc.) and doctoral (Ph.D.) degrees in specialised disciplines of fisheries science and technology.
-  To conduct capsule courses for catering to the refresher training needs of fisheries developmental and extension personnel.
-  To conduct basic research in frontier areas of fisheries science and technology through institutional and collaborative efforts.
-  To conduct need-based capsule/vocational training on various technologies related to fisheries and allied disciplines.
-  To provide institutional support for consultancy and participation in sponsored projects and programmes with other institutions and agencies for fisheries research in inland, coastal and marine (both within EEZ and beyond) sectors.

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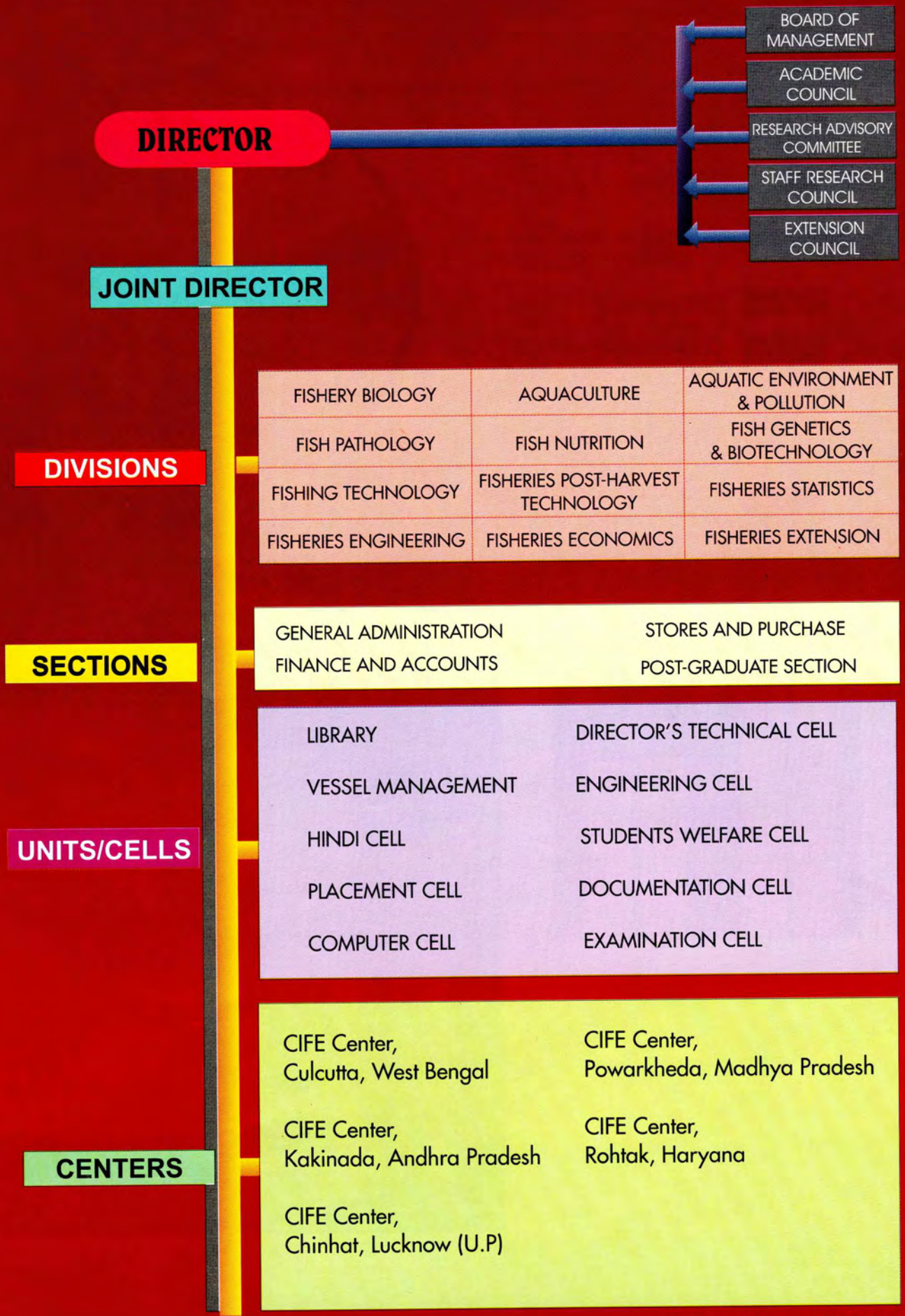
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Organisational chart of CIFE

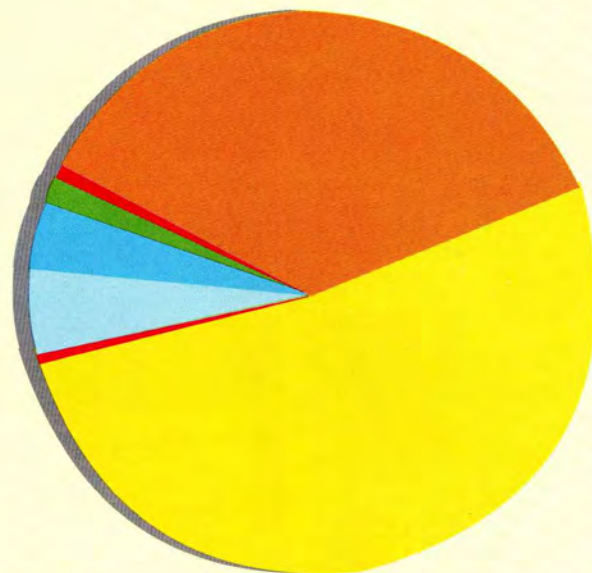


Finance

Receipts

in Rs. Lakhs

269.00	PLAN
394.74	NON-PLAN
004.50	NATIONAL AGRICULTURE TECHNOLOGY PROJECT
012.06	A.P.C.E.S.S FUND
025.27	CENTRE OF ADVANCED STUDY IN FISHERY SCIENCE
038.00	PLAN SCHEME OF STRENGTHENING OF DEEMED UNIVERSITY
002.90	COMMOMERATING 50 YEARS OF INDIA'S INDEPENDENCE

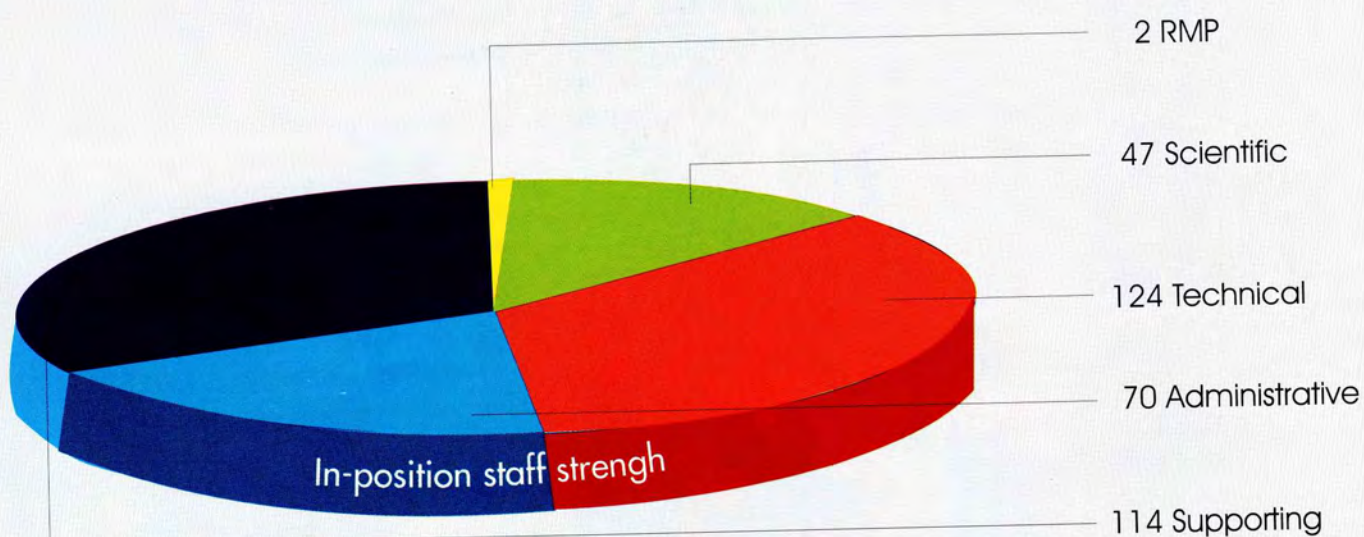


Staff position

(as on 31 March 1998)

CATEGORIES	SACNTIONED	FILLED	VACANT
RESEARCH MANAGEMENT POSITIONS (RMP)			
Director	01	01	-
Joint Director	01	01	-
SCIENTIFIC			
Principal Scientists	10	04	06
Senior Scientists	20	10	10
Scientists	60	33	27
TECHNICAL	141	124	17
ADMINISTRATIVE	76	70	05
SUPPORTING	116	114	2
TOTAL	425	358	67

The figures denote the position of staff after applying the 5% cut against the originally sanctioned strength imposed by the Ministry of Finance.



4. Research achievements

4.1 AD-HOC STUDIES

4.1.1 ASSESSMENT OF GROUND REALITIES REGARDING THE IMPACT OF SHRIMP FARMING ON COASTAL ECOLOGY OF ANDHRA PRADESH AND TAMIL NADU.

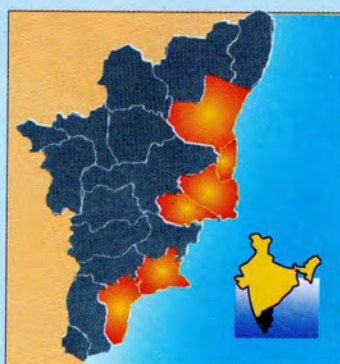
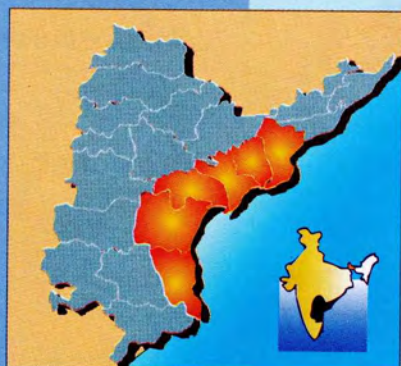
The study was taken up in response to the directives received from the ICAR. The feedback was reportedly required by the Hon'ble Agriculture Minister for discussions in Parliament on the Aquaculture Authority Bill, 1997.

The study team consisted of Dr. N.K. Thakur, Dr. G. Gopalkrishna, Mr. R.P. Raman, Mr. A.K. Reddy and Dr. Chandra Prakash from CIFE and Dr. G.R.M. Rao, Dr. P. Ravichandran, Dr. B.P. Gupta, Dr. M. Krishnan and Ms. D. Deboral Vimala. Six districts each from Andhra Pradesh and Tamil Nadu wherefrom 48 and 26 shrimp farms, respectively were selected for the present study.

A proforma was developed for seeking information on various aspects of shrimp farming activities. The respondents for the study included shrimp farmers, villagers, general public, local state fisheries personnel and officers of concerned agencies. The study was conducted during May, 1997.

The following conclusions were drawn:

1. Aquaculture activities were not a hindrance to agricultural activities as only 12.5 to 15.0% of the agricultural lands were found to be utilised. Moreover, most of these agricultural lands were not fertile and lying largely unutilized.
2. Utilization of mangrove areas for aquaculture was minimal, only under extensive system of farming, since mangrove areas are not compatible for semi-intensive and intensive shrimp farming. Furthermore, acid sulphate soils in the mangrove areas prove detrimental to shrimp growth.
3. Salinization of land and drinking water is not due to shrimp farming.
4. Discharged wastewaters were biodegradable; moreover, there was a growing realisation among the shrimp farmers about the importance of having wastewater treatment ponds in their farm complex.
5. Shrimp farming activities did not pose any threat to health and hygiene of local population.
6. Better employment opportunities were provided in those areas where shrimp farming activities flourished.
7. The problem of obstruction in accessibility to fishing areas (beaches) was found to be true in some cases, particularly with big corporate sector farms of more than 20 hectares albeit of a minor nature and could perhaps be easily resolved through mutual negotiations.
8. CRZ rules in the context of coastal aquaculture need to be relaxed. Instead of considering it as a hindrance, coastal aquaculture should be used as a tool for coastal zone management.



Maps showing study areas in A.P. and T.N. states

Comparison of selected parameters

- Parameters
- Andhra Pradesh
- Tamil Nadu



1.	Percentage of : a. Corporate farms b. Private farms	5 95.0	7.5 92.5
2.	Size of farms a. Total area (ha) b. Water spread area (ha) c. Size of individual pond (ha) d. Distance of farms from sea (km)	0.50 to 200.00 0.40 to 1.25 0.6 to 22	0.39 to 106.62 0.40 to 95.00.30 to 69.12 0.30 to 1.50 0.2 to 1.0
3.	Land holding on which farm exists (in percent) a. Private land b. Govt. land	95.0 5.0	90.0 10.0
4.	Location of the farm (in percent) a. Sea-based b. Creek/canal-based	2.5 97.5	15.0 85.0
5.	Year of farm construction	1982-1994	1990-1994
6.	Number of farms which are fenced	Nil	Farms of more than 10 ha area are under some kind of protection
7.	Species cultured	<i>P. monodon</i> 100% (one farm with major carp)	<i>P. indicus</i> 10%
8.	Level of operation (in percent) a. Extensive b. Modified extensive c. Semi-intensive	85 10 5	75 15 10
9.	Source of seed a. Natural b. Hatchery	Nil 100%	Nil 100%
10.	Rate of stocking (PL-20) (per ha) a. Extensive b. Modified extensive c. Semi-intensive	15,000-25,000 >25,000- 70,000 >70,000-2,50,000	--- 50,000 - 70,000 >70,000 - 1,50,000
11.	Nos. of farms in which aerators are being used (in%)	7.5	20.0
12.	Feed used (in percent) a. Imported b. Local c. Both	2.5 75.0 22.5	70.0 30.0 ---
13.	FCR a. for Imported feed b. for Indian feed	1:1.2 1:2	1:1.2 1:1.8 to 2.5
14.	Use of drugs	a. Vit.C powder with feed in most farms b. Benzylkonium chloride (BKC) when disease occurs	No prophylactic treatment. Treatment with iodine based compound when affected with disease.
15.	Culture duration	110 to 160 days	120 to 150 days
16.	Average production a. Extensive b. Modified extensive c. Semi-intensive	300-500 kg/ha/crop 500-1000kg/ha/crop 1500-3500kg/ha/crop	--- 700-1200 kg/ha/crop 1500-3000 kg/ha/crop
17.	No. of staff employed a. Technical b. Supporting	2 persons/farm of 10 ha 6 persons/farm of 10 ha	Nil-1 person /farm of <10 ha 2-4 persons /farm of <10ha
18.	Any problem experienced a. Disease outbreak b. Water quality deterioration c. Social unrest	Noticed since 1994 1 farm due to heavy organic load Nil	Noticed during 1995-96 Nil Yes, in certain areas



4.1.2 OBSERVATIONS ON SINGHARA-CUM-FISH CULTURE.

Singhara, called water chestnut in English, is a partly floating and partly submerged aquatic plant, with assimilatory adventitious fibrous free floating roots developed from leaf bases. The cultivators, through continued selection and cultural practices, have developed the strain *Trapa bispinosa* which has nuts with larger and softer starchy reserves having easily peelable skin compared to the wild stock with smaller and harder nuts.

Singhara fruit is very nutritious and can be eaten raw or in boiled state. It is used for making various types of curry preparation while its white meat is also dried and ground to make flour for making *parathas* and *chapatis* as also for preparing sweet dishes. *Singhara* is also used as an item for offerings to deities in various Hindu festivals and is also well known for its medicinal attributes. *Singhara* is best grown in shallow perennial water bodies with rich load of organic detritus at the bottom. About 50 kg (2500 in number) of seed are sown in one hectare of water area in January. The roots develop within 10 to 15 days of sowing. In April-May, the plants appear at the surface of water. Thinning operation is done in July. Within a month or so, the water area gets covered with luxurious growth of leaves all over. Flowering takes place in rainy season. Fruits appear in October-November and fully ripen in winter.

Harvesting is done in winter using a raft like contrivance which remains tied with the necks of two round earthen pitchers which serve as floats at its two ends. The entire crop is harvested in four instalments giving a gap of about 8 days between the successive harvesting operations.

Harvesting in instalments is necessitated as the fruits ripen in batches. Quantitatively, the maximum yield is obtained in the second and third instalments of harvesting operations.

The yield of *singhara* from one hectare of water area which, on an average, ranges from 6 to 6.5 quintals, is just sufficient to give a net income of about Rs.1000/- only. The remuneration is, no doubt, unimpressive but, worthwhile for a complementary item of work done in waste-waters which would have otherwise remained totally fallow.

There is a possibility of improving the economics of waters under *singhara* cultivation by charging the water with seeds of air-breathing fishes, such as Magur (*Clarias batrachus*) and Kawai (*Anabas testudineus*) which are capable to withstand the adverse ecological conditions in such waters which have their surface covered with the foliage of *singhara* plants for a good part of the duration of cultivation.

4.1.3 USE OF OZONE AS A DISINFECTANT IN AQUAHATCHERIES.

Ozone was tested for its efficacy in controlling diseases of shrimp and prawn post-larvae in aquahatcheries. In the first experiment, ozone was used to control the luminescent and filamentous bacteria associated with bacterial necrosis on *Penaeus monodon* post-larvae. The bacteria were completely eliminated after 48 hours of ozone application. In the second experiment, 36 to 48 hours of ozone application was found to cure the fungal (*Saprolegnia* sp) infection in the post-larvae of *Macrobrachium rosenbergii*.

4.2 EXTERNALLY FUNDED/ SPONSORED PROJECTS.

4.2.1 MARINE FISHERY RESOURCES AND RELATED WORK IN INDIAN EEZ (DOD Funded).

As part of a recently started DOD Project on the mapping of the living marine resources of the Indian waters, CIFE personnel participated in the sampling in the Wadge Bank area on board FORV *Sagar Sampada*. Further analysis of the samples collected is in progress.

4.2.2 CREATION OF A MODEL SPAWNER FACILITY FOR PRAWN (*PENAEUS* SP.) HATCHERIES AND ASSESSMENT OF SPAWNER ABUNDANCE AND RECRUITMENT IN *PENAEUS* SP. STOCKS IN MAHARASHTRA & ANDHRA PRADESH (A.P. Cess Funded Project).

Specieswise and sexwise data on size composition of commercial penaeid prawn landings collected from Ferry Warf landing centre, Mumbai. During the period, in all 10281 specimens belonging to *Penaeus merguensis*, *P.monodon* and *P. japonicus* were observed. Data on maturity stages were also recorded. Experiments on maturation of penaeids in cage is being carried at the Andhra Pradesh Fisheries Corporation's farm site.

4.2.3 ASSESSMENT OF SHELLFISH AND FINFISH RESOURCES OF THE NORTHWEST SECTOR OF INDIAN EEZ (DOD Funded)

Data is being collected on the size composition of *Saurida tumbil* and on two species of ribbon fish viz. *Lapturacanthus savala* and *Eupleurogrammus muticus* collected from different landing centres in Mumbai.

4.2.4 STRENGTHENING OF RESEARCH AND TRAINING IN POPULATION AND DEVELOPMENT DYNAMICS OF RURAL FISHING COMMUNITIES (FAO Sponsored Project)

The fisherfolk community in Maharashtra considering the living conditions, asset ownership, income and saving pattern, educational background, etc. belonged to the middle socioeconomic group. Community occupation, i.e. fish capture and related activities was the major income-generating activity. Women were active partners in the community occupation, besides performing domestic chores. Multiple survival strategy was being followed, with the fisherfolk moving to service sector employment to supplement the family income. The community occupation was no more regarded to be financially viable and fisherfolk did not want their children to follow their foot steps.

By and large, the marriage amongst the fisherfolk abided by the legal regulations. However, early marriages of women did take place, even though the awareness regarding the appropriate age at marriage (18 years) seemed to exist.

Almost all the fisherwomen had given birth to children, the number, however, did not conform to the ideal number of children as perceived by themselves as well as that prescribed by the Government of India. Male child was still preferred.

The modern contraceptives, though known to almost all the fisherfolk, were seldom used. Birth spacing was not a matter of concern. The terminal method of ligation was the most common practice. The sources of contraceptives were readily accessible.

The fisherfolk were fully aware of the degradation of coastal environment and depleting resources but no adequate steps had been taken so far, either by the fishing community or by the Government to improve the situation.

The demographic and cognitive pattern of the farmers did not indicate any appreciable difference in the living style and conditions, reproductive behaviour and attitude towards family planning issues.

Apart from the above, work is in progress in the other Externally funded projects in operation at CIFE, Mumbai.

4.3 INSTITUTIONAL PROJECTS

4.3.1 GENETIC STUDIES ON FRESHWATER PRAWNS

The cytogenetic analysis of Orissa and Andhra populations of *Macrobrachium malcolmsonii* and Kerala and Maharashtra populations of *Macrobrachium rosenbergii* continued during 1997-98. The karyotype formulae for these two species have further been worked out as 37 metacentric, six submetacentric, 15 telocentric and 15 acrocentric pairs in *M. rosenbergii* (female) and 27 metacentric, six submetacentric, one subtelocentric and 25 acrocentric pairs in *M. malcolmsonii*. In order to develop *in-vitro* chromosome preparation techniques, preliminary attempts were made for short-term cell culture from *M. rosenbergii*.

4.3.2 PRESERVATION OF FISH AND FISHERY PRODUCTS

Samples of silver carp (*Hypophthalmichthys molitrix*) each weighing about 1.4 to 1.5 kg procured from Sivaji tank, Thane, were kept in ice

for about six hrs. and then frozen individually after rewashing in 5 ppm chlorine water in the spiral freezer of M/s. Firoz & Co., Colaba, Mumbai. The frozen samples were glazed and wrapped in polyethylene paper and packed in master carton and stored in cold store at -18°C. Samples were drawn at monthly intervals and subjected to biochemical and bacteriological characteristics. The data on the above parameters show that the samples were in prime acceptable from in storage for 4 months. No appreciable change in colour and odour was noticed in the raw muscle. After four months, organoleptic evaluation of the cooked muscle revealed slight change in the flavour. Texture appeared little tougher. These changes in organoleptic characters were well supported by biochemical changes measured in the muscle.

4.3.3 STUDIES ON AQUATIC BIOTOXINS, VENOMS AND ANTINEOPLASTIC SUBSTANCES FROM FISHES.

Second phase studies on the characterisation of toxins isolated from jelly fish, scianids, horseshoe crabs and catfishes are in progress. Biomedical activities and neuromodulatory properties of these toxin are also being studied.

4.3.4 EXPERIMENTS ON FARMING OF SCYLLA SP.

This experiment was conducted in two earthen ponds. Prior to the stocking of

seed, all pond management practices were attended. Earthen hume pipes were fixed in the ponds as a hide-outs to the crabs. Young crabs from natural resources were procured from local market. 500 nos. of crabs measuring , on average, 97.27 mm in width and 116.25 g in weight were stocked in these ponds, @ 3086 nos/ha. During the entire culture period dried eels were given as feed @ 5% of the body weight. All physico-chemical parameters were monitored at regular intervals to maintain the water quality. Growth in weight was assessed regularly. Due to a cyclonic storm and adverse environmental condition large scale mortality of crabs occurred.

After 116 days culture period the leftover stock of 48.35 kg was harvested. At the harvesting time the increment in width and weight was recorded as 145.40 mm and 435.00 g in one pond and 141.80 mm and 370.00 g in the other pond respectively. The increment in width and weight in 116 days of culture period was recorded as 47 mm and 201 g in one pond and 44 mm and 313 g in the other pond.

4.4 Student Research Programme.

Student Research carried out in the from of Dissertation/Thesis work as a compulsory component of the course curricula of Doctoral, Masters and Post-graduate Diploma and Certificate programmes, forms an important component of the Institute's research programmes.

5. Education achievements

Academic Programmes	1.	Ph.D (Fisheries Resource Management)	-Nil-	03
Academic Programmes	2.	Ph.D (Inland Aquaculture)	-Nil-	09
Number of students passed out	3.	Ph.D (Mariculture)	-Nil-	12
Enrolments	4.	M.F.Sc. (Fisheries Resource Management)	20	19
	5.	M.F.Sc. (Inland Aquaculture)	19	16
	6.	M.F.Sc.(Mariculture)	11	11
	7.	D.F.Sc.	34	19
	8.	P.G. Certificate Course in Inland Fisheries Development and Administration	13	37
		Total	97	126

Special/Guest lectures

- Name and Address of the Speaker
- Topic
- Date

1.	Dr.R.D.Sharma Director, DICPA, ICAR,New Delhi	How to Write Popular Scientific Articles in Hindi	22 Sep.,1998
2.	Dr.V.V.Singh Scientist(SS) Mumbai Regional Centre of CMFRI,Mumbai	i)Coastal Aquaculture in the Light of Coastal Regulation Zone (CRZ) and Integrated Coastal Zone Management (ICZM) ii) Environmental Impact Assessment and Social Impact Assessment with Special Reference to Coastal Aquaculture	29 Nov.,1997
3.	Dr.P.S.Chauhan Head, Cell Biology Division, BARC, Mumbai	Genetic and Environmental Health - Prospects and Challenges	11 Feb., 1998

Training Programmes organised under the Centre of Advanced Study (CAS) Scheme in Fishery Science

- Title of the Training Programme
- Duration
- Number of participants

1.	Modern approach to aquafeed formulation and on-farm feed management (organised by Fish Nutrition Division)	18 to 27 February, 1998	16
2.	Culture of live food organisms for aquahatcheries (organised by Aquaculture Division)	03 to 12 March, 1998	13



Invited lectures delivered by
CIFE Faculty


- Faculty
- Topic
- Venue
- Date


Dr.D.R.Rao	Value addition of fishery products	College of Agricultural Banking, Pune	25 May 1997
Dr.S.A.H.Abidi	Global warming and the role of youth	MES Indian School, Doha	23 October 1997
Dr.N.K.Thakur	Techno-economic aspects of aquaculture projects	College of Agriculture Banking, Pune	08 November 1997
Mr.K.Venkateshvaran	Venomous marine animals dangerous to divers along the Indian coast	The IX Annual Convention of the Naval Medical Society, Mumbai	10-12 December 1997
Dr.M.B.Iftekhar	Mariculture of Finfishes, Cage culture and their aspects as part of the curriculum for Extra Masters Course	Lal Bahadur Shastri Advance maritime Studies Nautical and Engineering College, Mumbai	Oct & Dec 1997
Mr.A.K.Reddy	Introduction to principles, methods and process of Environmental Impact Assessment in Aquaculture	Rajiv Gandhi Centre for Aquaculture (MPEDA), Chennai	10-12 December 1998
Dr.S.A.H.Abidi	Problems and solutions of megacities like Bombay and role of NGOs	The Rotary Club of Bombay (North End)	19 March 1998
Mr.R.P.Uniyal	Hindi journalism and the art of publication (in Hindi)	Central Bureau of Translation, Mumbai	21 October 1998
Dr.W.S.Lakra	Fish Genetics and Biotechnology	Department of Zoology, University of Allahabad, Allahabad	26 & 27Feb.,1998

6. Extension achievements


6.1 TRAINING PROGRAMMES

1.	<i>Macrobrachium</i> Hatchery Management and Seed Production	CIFE, Centre, Kakinada	19 March to 03 May 1997	10
2.	Brackishwater Aquaculture Technology	-do-	06 May to 19 June 1997	19
3.	Management of Freshwater Fish Farms	-do-	05 to 19 August 1997	08
4.	<i>Macrobrachium</i> Hatchery Management and Seed Production	-do-	18 August to 01 Oct. 1997	10
5.	Management of Brackishwater Fish Farm	s-do-	21 Oct. to 04 Nov.1997	09
6.	Freshwater Aquaculture Technology	-do-	10 Nov. to 24 Dec. 1997	09
7.	Management of Freshwater Fish Farm	CIFECentre, Powarkheda	05 to 19 August 1997	26
8.	Aquaculture for Weaker Section Fisherman	CIFE Centre, Calcutta	20 to 26 March 1998	12
9.	Fish Seed Rearing and Aquarium Keeping	-do-	27 Sept. to 06 Oct. 1997	18
10.	Aquaculture System and Aquaculture based Industries	-do-	16 to 25 Oct. 1997	20
11.	Fish Culture and Seed Production (IV batch)	CIFE Centre, Lucknow	01 March to 31 August 1997	32
12.	Fish Culture and Seed Production (V batch)	-do-	01 Sept. 1997 to 28 Feb.1998	25
13.	Fish Culture and Seed Production	-do-	20 Sept. to 19 Oct. 1997	11
14.	Sewage Fed Fish Culture	CIFE Centre, Cauclutta	20 to 26 March 1998	15
15.	Management of Giant Freshwater Prawn Hatchery	CIFE, Mumbai	28 July to 11 August 1997	13

 Topic of training

 Venue

 Date

 No. of trainees

6.2 FISHERY ADVISORY SERVICE (FAS)

In an effort to satisfy the inquisitiveness of the fisheries entrepreneurs, fish farmers, etc. who visit the Institute from time to time, FAS was started in 1991. During the period under report 22 people, attended the 12 meetings of FAS held during the year. Water and soil samples of 150 potential farmers were analysed by the Institute.

6.3 FISHERMEN / FISH FARMERS/FARMERS DAYS, MELAS, ETC ORGANISED

6.3.1 Fishermen`s Day

As a part of the Golden Jubilee celebrations of India`s Independence , a programme of Fishermen`s Day was organised on 12 February, 1998. On this day, the Fishermen Cooperative Society of Versova - *Vesawa Macchlimar Vividh Karykari Sahakar Society Ltd.* was felicitated for winning the National Productivity Council Award. Ms.Kavita Gupta, IAS, Managing Director, Maharashtra Fisheries Development Corporation, Mumbai was the Chief Guest on this occasion while Dr.M.D.Zingde, Deputy Director & Incharge, Mumbai Regional Centre of NIO presided over. Dr.S.A.H.Abidi, Director, CIFE delivered the Welcome address and also felicitated Shri Hiraji, Chairman of the Society. Dr.Samar Dutta, Professor, Centre for Management in

Agriculture, IIM, Ahmedabad also graced the function by their presence. The function witnessed the release of two CIFE publications viz. i) Students` Dissertation Abstract (bilingual in English and Hindi) and ii) an informative booklet in Marathi language on *Mahajhingya che Godya Panyat Sanvardhan* (Culture of Giant Prawn in Freshwater). Ms.Kavita Gupta, Dr.Zingde and Dr.Dutta, in their respective speeches, lauded the efforts of the fisherman community in transforming Indian fisheries . Shri Jhemane spoke on behalf of the Society. The programme concluded with a Vote of Thanks by Dr.Bharat S.Sontakki, Scientist, CIFE. The programme was attended by a large number of fishermen of the Versova fishing village who later in the evening visited the Exhibition put up at CIFE.

6.3.2 Farmer`s Meet

A Farmers Meet was jointly organised by the CIFE Centre, Powerkheda and the Oriental Research Foundation, Bhopal at the Freshwater Fish Farm of the CIFE Centre, Powerkheda on 9 December, 1997. A large number of farmers of the area attended this Meet. The faculty members of the Powerkheda Centre of CIFE rendered necessary technical advice as per the requests of the participants. Fish and prawn seed was also distributed to needy farmers during this meet.



6.3.3 Participation in Kisan Mela/Farmers Meet, etc.

Kisan Mela	ANGRAU, Hyderabad and FRS, Kakinada	Kakinada	28 and 29 November 1997
Farmers Meet on Sustainable Shrimp Farming	MPEDA, Vijaywada and East Godavari District Shrimp Farmers' Association, Kakinada	Kakinada	23 January 1998

□ Details

□ Venue

□ Date

6.4 EXHIBITIONS

Poster exhibition put up on the occasion of Sadbhawana Diwas	CIFE, Mumbai	30 August, 1997
Exhibition on "Agricultural Education on the Move" organised on the occasion of Vice-Chancellors' Conference	K.A.B.Auditorium, Pusa, New Delhi	02&03 September, 1997
Fisheries Exhibition put up on the occasion of Visit of Parliamentary Standing Committee (Group II) on Agriculture	CIFE, Mumbai	01 October, 1997
Relay Poster Series highlighting the importance of different subjects of fisheries (every month on New subjects)	CIFE, Mumbai	w.e.f. November, 1997
Agriculture Exhibition put up on the occasion of 50 Years of India's Independence	Pragati Midan, New Delhi	05-27 November, 1997
Fisheries Exhibition put up on the occasion of Golden Jubilee Celebrations of India's Independence at CIFE	CIFE, Mumbai	07 to 13 February, 1998
State Level Science Exhibition	Council of Science and Technology, Uttar Pradesh Gorakhpur (U.P.)	21 to 24 March, 1998

□ Details of Exhibition

□ Venue

□ Date



6.5 TELEVISION COVERAGE ON CIFE CENTRE, POWARKHEDA

A 15 minute programme on the activities of the CIFE Centre, Powarkheda was telecast on 19 February, 1998 at 6.10 p.m. in Krishi Darshan programme from the Bhopal Doordarshan centre. The programme highlighted the different activities of the Centre such as induced breeding, culture aspects, feeding, manuring, netting, etc. A brief talk with the Officer in-Charge, Shri. S.S.H. Razvi and other staff was also aired in the programme.

6.6 AWARENESS PROGRAMME ON "FISHERIES AND ENVIRONMENT"

On the occasion of Golden Jubilee Celebration of India's Independence, an Awareness programme on "Fisheries and Environment" was organised at CIFE, Mumbai on 9 and 10 February, 1998 for the benefit of students of schools and colleges of Mumbai. The objective of this programme was to create an awareness about the environmental threats to fisheries and the possible remedies in this regard. The programme was organised in the form of a series of events like poster competition, a debate contest on "Aquaculture and Environment", film shows, visit to exhibition, etc. Attractive stickers, specially prepared on this

occasion, were distributed among the students to promote awareness about eco-friendly aquaculture. This twoday programme was coordinated by Shri. Atul Kumar Jain, Scientist (SS) and Dr.N.P.Sahu, Scientist. Apart from the above programme, the Institute continued its efforts to create awareness amongst the students of schools, colleges, universities and others by coordinating their visits. During such visits, the visitors were appraised of the ongoing activities of the Institute and shown the different laboratories/divisions. Film and slide shows were also arranged. CIFE also arranged visits to the places of fisheries interest in and around Mumbai as per the needs of the visitors. Over 1,000 students from schools, colleges and trainees from CIFE centres visited CIFE, Mumbai during the bygone year.

6.7 INFORMATION DISSEMINATION SERVICES

A large number of queries keep on pouring from enthusiastic students, fishermen/fish farmers and entrepreneurs seeking specific information on a number of subjects, which were promptly attended to. Various publications of the Institute were also supplied by mail, upon specific request, to over 100 persons.

7. Awards and Recognitions



DR.S. A. H. ABIDI
DIRECTOR

PLAQUE D'HONOUR

NATIONAL ACADEMY OF AGRICULTURAL
SCIENCES/ORIENTAL RESEARCH FOUNDATION

15 DECEMBER 1997

MEMBER, STANDING FINANCE COMMITTEE
INDIAN COUNCIL OF AGRICULTURAL RESEARCH

17 OCTOBER 1997



DR.A.D.DIWAN,
Principal Scientist

FELLOWSHIP

SOCIETY OF NATURE CONSERVATORS

22 NOVEMBER 1997

FELLOWSHIP

BIOVED RESEARCH SOCIETY IN TECHNOLOGY

21 FEBRUARY 1998



DR.(Ms) KIRAN DUBE, Sr.Scientist

DR.RAJENDRA PRASAD PURASKAR

INDIAN COUNCIL OF AGRICULTURAL RESEARCH

16 OCTOBER 1997

DR.SHRINIVAS
JAHAGIRDAR
Scientist



U.A.S. GOLD MEDAL

UNIVERSITY OF AGRICULTURAL SCIENCES, BANGALORE

30 MAY 1997

DR. BINAY BHUSHAN NAYAK,
Scientist

U.A.S. GOLD MEDAL

UNIVERSITY OF AGRICULTURAL SCIENCES, BANGALORE

30 MAY 1997



Mrs. Nalini Poojary

BEST WOMAN ATHELETE
 ICAR SPORTS TOURNAMENT (WESTERN REGION ZONE II)
 4 TO 7 FEBRUARY 1998.



Surajbali J.



J.M. Koli



Vijay Kuveskar



Mahesh B. W.

III BEST TEAM OF THE TOURNAMENT
 ICAR SPORTS TOURNAMENT (WESTERN REGION ZONE II)
 4 TO 7 FEBRUARY 1998.



MATSYODAY (1996-97), THE CIFE STUDENT'S MAGAZINE

FIRST PRIZE : WESTERN REGION &
 SECOND PRIZE : ALL INDIA LEVEL
 RAJENDRA KIRAN SAMACHAR PATRIKA
 06 FEBRUARY 1998

CIFE CENTER, LUCKNOW
 DR. P.K.VARSHNEY
 MR.A.K.YADAV &
 MR. S.K.UPADYAY

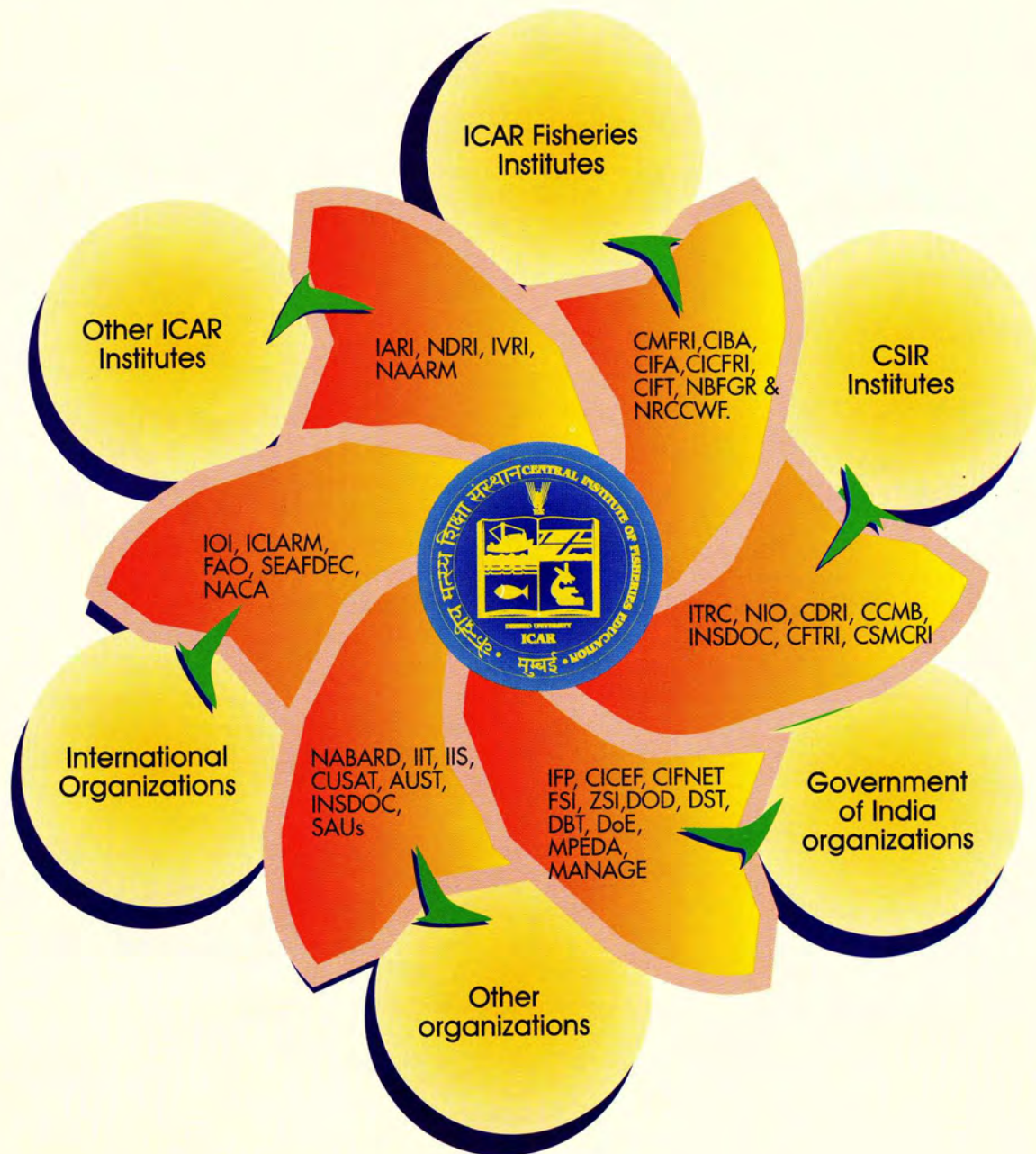


DR. P.K.VARSHNEY

BEST STALL PRIZE IN STATE LEVEL SCIENCE EXHIBITION
 FIRST PRIZE FOR SCIENCE LECTURE
 CERTIFICATES OF MERIT FOR SCIENCE LECTURE
 COUNCIL OF SCIENCE & TECHNOLOGY
 UTTAR PRADESH
 25 & 26 MARCH 1998

8. Linkages and collaboration in India and abroad including externally funded projects

8.1 LINKAGES



MoU signed between CIFE and NIO



Dr. E. Desa, Dr. S.A.H.Abidi, The Directors of NIO & CIFE, respectively exchanging the MoU document

In order to efficiently harness the mutual strength, expertise and infrastructure in respect of R & D in ocean sciences, a Memorandum of Understanding was signed between CIFE, Mumbai and National Institute of Oceanography (CSIR), Goa. This MoU aims at promoting collaborative research, education and training in the fields of ocean sciences, marine biology, navigation, aquaculture, information, etc. between CIFE and NIO. The MoU was signed by the Directors of these Institutes namely, Dr S.A.H.Abidi of CIFE, Mumbai and Dr. E. Desa of NIO, Goa at CIFE on 24th June 1997. This important occasion was attended by Padmashri Dr. N. Balakrishnan Nair, Dr. P.V. Dehadrai, Dr. M.D. Zingde and a galaxy of scientists of both the Institutes.

MoU Signed between CIFE and M/s.Aquazona Exports, New Delhi



Dr. S.A.H.Abidi, Director, CIFE speaking on the occasion of MoU signing between CIFE, Mumbai and M/S Aquazona, New Delhi

CIFE has initiated a collaborative research project on ornamental fishes with M/s Aquazona Exports, a New Delhi based export oriented private enterprise. The main objective of this project is to produce selected varieties of commercially important ornamental fishes from freshwater, brackishwater and marine habitats for commercial trade in domestic and international markets. A Memorandum of Understanding (MoU) was signed to this effect amidst ceremonial ambience on 24th January, 1998 at CIFE, Mumbai. Prof. H.P.C.Shetty, Ex-Director of Instruction, College of Fisheries, Mangalore and Prof. K.H.Alikunhi, Ex-Director, CIFE graced this occasion as the Chief Guest and President, respectively.

This collaborative research project is for a period of three years during which CIFE will be organising a series of training programmes on this subject for the benefit of researchers, professionals, entrepreneurs, college and school students, etc. and also publish literature on the subject for academic and research purposes.

8.3 EXTERNALLY FUNDED/SPONSORED RESEARCH PROJECTS

- | | | |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| 1. | Identification of new candidate species for mariculture and standardisation of relevant technique. | Department of Ocean Development |
| 2. | Creation of model spawner facility for prawn, <i>Penaeus</i> spp. hatcheries and assessment of spawner abundance and recruitment in <i>Penaeus</i> spp. stocks in Maharashtra and Andhra Pradesh. | A.P.Cess Fund of ICAR |
| 3. | Assessment of shellfish and finfish resources of the north-west sector of Indian Exclusive Economic Zone (EEZ). | Department of Ocean Development |
| 4. | Development of immunodiagnostic kits for bacterial diseases of fishes. | Department Biotechnology |
| 5. | Marine fisheries marketing in India: problems and prospects. | Department of Ocean Development |
| 6. | Temporal and spatial variations in the occurrence and abundance of planktonic larvae of cultivable invertebrates off the north-west coast of India and their experimental mariculture. | Department of Ocean Development |
| 7. | Strengthening of research and training in population and development dynamics of rural fishing communities. | Food & agricultural Organization, United Nations |
| 8. | Ichthyocriotoxic screening of Indian marine fishes for commercial exploitation. | Department of Science and Technology |
| 9. | Technology transfer of seed production/culture of brackishwater fin fishes and prawns in inland saline environment in Maharashtra and Andhra Pradesh. | Department of Biotechnology |
| 10. | Assessment of environmental parameters and marine living resources (primary/secondary) in the Indian Exclusive Economic Zone and role of myctophid fauna in the mesopelagic habitat. | Department of Ocean Development |
| 11. | Stock assessment, biology and resource mapping of deep sea shrimps and lobsters, cephalopods and fishes in the Indian Exclusive Economic Zone. | Department of Ocean Development |
| 12. | Harvest technology and catch composition of deep-sea fishery of Indian Exclusive Economic Zone. | Department of Ocean Development |
| 13. | Studies on deep scattering layer. | Department of Ocean Development |
| 14. | Marine fishery resources and related work in Indian Exclusive Economic Zone. | Department of Ocean Development |
| 15. | Breeding and rearing of selected species of commercially important ornamental fishes. | M/s.Aquazona Exports |

9. Publications

9.1 BOOKS/MANUALS/BROCHURES ETC.

1997

Matsyodaya (1996-97)- Annual Students Magazine, CIFE, Mumbai

Brackishwater Aquaculture Technology - Training Manual of CIFE Centre, Kakinada

1998

Abstracts of National Seminar on Vision on Indian Fisheries of 21st Century. CIFE, Mumbai

Abstracts of Student Dissertations (1997). CIFE, Mumbai

Annual Report (1996-97). CIFE, Mumbai

Breeding of Common Carp - Training Manual of CIFE Centre, Lucknow.

CIFE-Deemed University of Fisheries. (Brochure for foreign students), CIFE, Mumbai.

Culture of Live Food Organisms for Aquahatcheries- Training Manual of CAS in Fishery Science, CIFE, Mumbai.

Modern Approach to Aquafeed Formulation and On-farm Feed Management - Training Manual of CAS in Fishery Science, CIFE, Mumbai

Thakur, N.K., R.S. Biradar and Bharat S. Sontakki (Eds.), 1998.
Consultancy and Contractual Services in Fisheries - A Profile of Experts at CIFE, Mumbai (India). CIFE, Mumbai

Thakur, N.K., R.S. Biradar and Bharat S. Sontakki (Eds.), 1998.
Fisheries Education in India . Proceedings of the National Seminar on Fisheries Education in India. CIFE, Mumbai, 23 and 24 May, 1996. CIFE, Mumbai

Uniyal, R.P. (Ed.), 1998
Jalchari (1997-98). CIFE, Mumbai

9.2 RESEARCH/CONCEPTUAL PAPERS AND POPULAR ARTICLES PUBLISHED /PRESENTED.

9.2.1 PAPERS PUBLISHED IN JOURNALS, BOTH INDIAN AND FOREIGN

Abidi, S.A.H., N.K. Thakur and R.S. Biradar, 1997,
Higher fisheries education in India since independence: retrospect and future options. *Journal of Higher Education*, 20 (4): 593-600.

Bindu R.Pillai and A.D. Diwan, 1997,
Osmoregulatory adaptation of the shrimp *Metapenaeus monoceros* in the estuarine environment. *Proceedings of the Indian National Science Academy*, B 63(4): 315-322.

Biradar, R.S. and N. K. Thakur, 1997,
Faculty requirements for educational programmes leading to graduation and postgraduation in fisheries. In : *Fisheries Education in India- Proceedings of the National Seminar on Fisheries Education*, CIFE, Mumbai. p.165-176.

Chandra Prakash, A.K. Reddy and N. K. Thakur, 1997,
Water quality manipulation in aquaculture. In: *Proceedings of the National Seminar on Water Quality Issues in Aquaculture Systems held at Tuticorin*, p. 29-36.

Diwan, A.D., 1997,
Need for developing a new model of education and training in fish and fisheries science. In : *Fisheries Education in India - Proceedings of the National Seminar on Fisheries Education*. CIFE, Mumbai, p. 94-97

Diwan, A.P. and C. Suseelan, 1997
Need for professional manpower development augment Indian marine shrimp industry. In :

Fisheries Education in India - Proceedings of the National Seminar on Fisheries Education. CIFE, Mumbai, p. 250-253

Dube, Kiran, 1997,
Vocationalisation of fisheries education in India. In : *Fisheries Education in India - Proceedings of the National Seminar on Fisheries Education*. CIFE, Mumbai, p.119-122.

George, J.P. 1997,
Urbanisation and industrialisation in the coastal environment and their impact on fisheries resources in India. In : *Proceedings of Seminar on Coastal Cities in India : Responding to Environment and Socio-economic Issues of Concern*.

Ghosh, K.K. and R.S. Biradar, 1997,
Disciplines of statistics and computer applications in higher fisheries education. In : *Fisheries Education in India - Proceedings of the National Seminar on Fisheries Education*. CIFE, Mumbai, p. 107-113

Gopalkrishna, G. 1997,
Need for education and training in coastal aquaculture development in India. In: *Fisheries Education in India - Proceedings of the National Seminar on Fisheries Education*. CIFE, Mumbai, p. 126-131

Jahageerdar, S.A., Chaudhari, M.G., Govindaiah and N.K. Thakur, 1997.
Equipping fisheries graduates with concepts and techniques of quantitative genetics and fish breeding. In : *Fisheries Education in India - Proceedings of the National Seminar on Fisheries Education*. CIFE, Mumbai, p. 145.

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Variation in biochemical composition of *Labeo rohita* (Ham.) fry fed with live feed organisms. *J. Inland Fish. Soc.*, Barrackpore.
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Studies on moult staging, moulting duration and moulting behaviour in Indian white shrimp *Penaeus indicus* H. Milne Edwards. *J. Aquacult. Trop* : 12(1): 53-57.
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Fishery genetics and related biotechnology research in India : Current status and future directions. In : *Proceedings of the Second Asia Pacific Conference on Marine Biotechnology*. Thailand
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Cytogenetic studies on endangered and threatened fishes. II Karyotypes of two species of snow-trout, *Schizothorax richardsonii* (Gray) and *S. kumaonensis* (Menon). *Proc. Nat. Sci. Acad. India*. 67(B) I : 79-81.
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Role of extension in fisheries education. p. 151-154 In : *Fisheries Education in India -Proceedings of the National Seminar on Fisheries Education*. CIFE, Mumbai.
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Changes in hematological parameters in *Heteropneustes fossilis* affected with cutaneous ulceration. *Proc. National Acad. Sci. India*, 67 (8) II: 48.
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- Sreekrishna, Y. and N.K. Thakur, 1997.
Faculty improvement - a must for achieving excellence in fisheries education p. 214-219 In : *Fisheries Education in India - Proceedings of the National Seminar on Fisheries Education*. CIFE, Mumbai.
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Revamping of Fisheries Education programmes during IX Plan - a must for CIFE. p. 206-213 In : *Fisheries Education in India - Proceedings of the National Seminar on Fisheries Education*. CIFE, Mumbai.
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Academic planning in fisheries education programmes of the country. p. 98-106 In : *Fisheries Education in India - Proceedings of the National Seminar on Fisheries Education*. CIFE, Mumbai.
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- Abidi, S.A.H. and N. K. Thakur, 1998.
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9.5 Non-Technical Papers/articles in
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10. List of approved on-going projects

Institutional Projects

1. Studies on aquatic biotoxins, venoms and antineoplastic substances from fishes.
2. Preservation of fish and fishery products.
3. Waste recycling through organic aquaculture.
4. Freshwater and marine pearl culture using unconventional beads.
5. Genetic studies on freshwater prawns.
6. Identification of distinct geographical populations of *Labeo rohita* through biochemical genetics.
7. Construction of a scale to measure socio-economic status of coastal fisherfolk families.
8. Studies on dietary requirement of essential fatty acids (W6 and W3) in Indian major carp, *Labeo rohita* and their effect on growth and survival.
9. Experiments on artificial fecundation, larval rearing and farming of mud crab, *Scylla* spp.
10. Prophylactic and therapeutic use of ozone in prawn hatcheries and its role in water quality management.
11. Comparative study on growth and survival of *Macrobrachium rosenbergii* post larvae obtained from different harvests of a single batch of larval population.
12. Estimation of predation mortality on prefishery juveniles by jelly fish in the north-west coast of India.

11. Consultancy, patents, commercialisation of technology

11.1 CONSULTANCY/CONTRACTUAL SERVICES OFFERED

1. Field trials on spawning of Indian major carps	M/s.Hemma Pharma, Mumbai	Aquaculture
2. Complete topographical and analytical survey for establishment of a freshwater prawn hatchery.	Dept. of Fisheries, Govt. of Maharashtra	Aquaculture
3. Development of a site plan for establishment of soil and water chemistry laboratories for Govt. of Maharashtra at Nagpur.	Dept. of Fisheries, Govt. of Maharashtra	Aquaculture
4. Repeat field trials on spawning of Indian major carps with hormone formulation, Ovotide.	M/s.Hemma Pharma, Mumbai	Aquaculture
5. Environmental monitoring in oil and gas fields of ONGC in the offshore areas of north-west coast of India.	Institute of Petroleum Safety & Environment Management, ONGC,Goa	Environment & Pollution Monitoring
6. Evaluation of efficacy of Sanosil in Aquaculture	M/s. Sanosil Biotech, Ltd., Mumbai	Fish Pathology

11.2 TECHNICAL ASSISTANCE

1. Information on the statewise number of fishing boats, cooperative societies, etc.	CIFE Centre, Powarkheda	M/s. Fergusson & Associates.
2. Freshwater fish farming.	CIFE Centre, Powarkheda	Tawa Matsya Sangha, Kena, Hoshangabad.
3. Fish Farm Construction	CIFE Centre, Powarkheda	Shri Vikram Singh, Biora Dist
4. Fish Farm Construction	CIFE Centre, Powarkheda	Shri Anil Saxena, Chandrapur
5. Fish Farm Construction	CIFE Centre, Powarkheda	Shri Chandrakar, Khurd, Dist Raipur
6. Fish Farm Construction	CIFE Centre, Powarkheda	Shri R.Dubey, Siwai Malwa, Dist. Hoshangabad.
7. Fish Farm Construction	CIFE Centre, Powarkheda	ShriPraveenJhalia, Dist. Hoshangabad.
8. Establishment of Fish Farm	CIFE Centre, Lucknow	Shri. Akthar Hussain, Lucknow.
9. Fish Seed production	CIFE Centre, Lucknow	Shri Manoj Pandey, Sughapur, Lucknow

Details of Technical Assistance

Division/Lab/Center involved

Client

12. RAC, Management Committees, SRC, QRT etc. meetings with significant decisions.

Academic Council of CIFE.

11 April 1997

22.1 Revision of syllabi for the deficiency course subjects.

22.2 (I) Hence forth no candidate would be admitted to any academic programme of the CIFE during the subsequent semester if he/she fails to fulfil the eligibility criteria on the prescribed day of admission to the I semester.

(ii) Dissertations of the M.F.Sc. students should be submitted latest on the 15th of July or the previous working day if 15th July happens to be Holiday, irrespective of the semester which is earmarked for dissertation work. Students who fail to submit the dissertation on schedule will not be allowed to appear for the final viva-voce examination.

22.3 A detailed proposal showing the details of qualification criteria, and the number of seats reserved etc. may be prepared and put up to the next meeting of Academic Council.

22.4 A brochure to be prepared on CIFE for foreign students giving all the requisite information.

30 August 1997

i) Recognition of ICAR Fisheries Institutes as approved research facilities for Ph.D. programmes of CIFE Deemed University.

ii) Modification of Eligibility criteria for entrance examination for Ph.D. programme of CIFE.

iii) Creation of new Scientific posts at CIFE during IX Plan.

Board of Management

25th Meeting, 8 September 1997

The Board of Management strongly recommended that separate funds to the tune of not less than Rs.50,00,000/- per annum may be allocated under a separate Head viz. Vessel Management under Non-Plan for the maintenance of the CIFE Vessels.

The Board of Management after looking into a proposal for the creation of various posts, authorised the Director, CIFE, to approach the ICAR/ASRB for getting sanctioned more posts during the IX Plan, as per the modified details taking due cognizance of the extreme shortage of scientific staff to maintain the requisite standards and quality in the academic and research programmes of the CIFE.

13. Participation of scientists in conferences, meetings, workshops, symposia, etc. and training programmes in India and abroad

13.1 Participation of faculty in conferences, meetings, workshops, symposia, etc.in India

1. Programme of Aquaculture held by MPCST, Indore (04 April, 1997)	Dr. S.A.H. Abidi, Director
2. Parliamentary Committee on Official Language (Hindi) at Parliament House, New Delhi.	Dr. S.A.H. Abidi, Director
3. Association of Indian Universities/UGC Round Table Conference/ Standing Committee Meeting at Devi Ahilya Vidhyalaya, Indore (02 to 04 June, 1997)	Dr. S.A.H. Abidi, Director
4. Third Meeting of Dr. M.S.Swaminathan's Committee on Agricultural Education at NAARM, Hyderabad (18-19 June, 1997)	Dr. S.A.H. Abidi, Director
5. Symposium on Aquaculture Activity in Maharashtra organised by Maharashtra Shrimp Farmers' Association at Mumbai (19 June, 1997)	Shri A.K. Reddy, and Dr. Chandra Prakash, Tech.Officers.
6. Meeting of the Research Council of NIO (CSIR), Dona Paula, Goa (24 June, 1997)	Dr. S.A.H. Abidi, Director
7. Meeting for finalising additional subjects for Agricultural Research Service Examinations of ICAR, at ICAR Headquarters, New Delhi (25 June, 1997)	Dr. S.A.H. Abidi, Director
8. 174th Meeting of the Governing Body of ICAR at ICAR, New Delhi (30 June, 1997)	Dr. S.A.H. Abidi, Director
9. Seminar on Preparative HPLC systems conducted by E-Merck (India) Ltd., Mumbai (7 July, 1998)	Dr. K. Pani Prasad Scientist and Mr. K.Venkateshvaran Scientist (SS)
10. Meeting of Secretary of DARE and Directors of Deemed Universities of ICAR for Oral Evidence before the Official Language Committee of the Parliament at Parliament House, New Delhi (9 July, 1997)	Dr. S.A.H. Abidi, Director Mr. N.K. Chaddha Scientist (SS) and Mr. R.P. Uniyal Asst. Director(OL)
11 Meeting for Sharing Views on Impact of Shrimp Farming on Coastal Ecology with Hon'ble MPs Mumbai (10 July, 1997)	Dr. S.A.H. Abidi Director Dr. N.K.Thakur Joint Director Dr. M.B.Iftekhar Scientist (SS) and Mr. A.K. Reddy, Technical Officer

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| 12. Conference of Vice-Chancellors (of SAUs) and Directors (of Deemed Universities) at Krishi Anusandhan Bhavan, New Delhi (02-03 September, 1997) | Dr. S.A.H. Abidi,
Director |
| 13. Workshop on Information Technology programme organised at National Informatics Centre, New Delhi. (04 September, 1997) | Dr. Bharat S. Sontakki,
Scientist and
Dr. K. Pani Prasad,
Scientist. |
| 14. Meeting of the Directors of ICAR Fisheries Institutes organised at CICFRI, Barrackpore (19-20 September, 1997) | Dr. R.S. Biradar,
Sr. Scientist |
| 15. Information and training requirement of NGO's organised by International Ocean Institute (21 September, 1997) | Dr. S. Basu
Senior Scientist |
| 16. Workshop on Freshwater Fish Conservation Assessment and Management organised by NBFGR, Lucknow (22 September, 1997) | Dr. U.K. Maheshwari
Senior Scientist
Dr. A.K. Jain,
Scientist
and Dr. P.K. Varshney
Technical Officer |
| 17. National Seminar organised by the Association of Indian Universities, New Delhi. (29 September, 1997) | Dr. R.S. Biradar,
Senior Scientist |
| 18. Conference on Emerging Trends in Indian Food Industry organised by Indian Convention of Food Scientists and Technologists at BARC, Mumbai (25-26 September, 1997) | Dr. B.B. Nayak
Scientist and
Shri S. Kannappan,
Scientist |
| 19. Annual General Body Meeting of ICAR at Cochin (10 October, 1997) | Dr. S.A.H. Abidi,
Director |
| 20. International Seminar on Education in Standardization and Quality Control organised by Bureau of Indian Standards, New Delhi (18 October, 1997) | Dr. S. Basu,
Sr. Scientist |
| 21. Meeting of the Faculty Board of Veterinary Science of the Acharya N.G. Ranga Agricultural University at Rajendranagar, Hyderabad (20 October, 1997) | Dr. N.K. Thakur,
Joint Director |
| 22. Workshop on Project Formulation under National Agriculture Technology Project for Arid Ecosystem at Central Arid Zone Research Institute (ICAR), Jodhpur (23-25 October, 1997) | Dr. Atul Kumar Jain,
Sr. Scientist |
| 23. Workshop on Environmental Physiology of Aquatic Invertebrates organized by Dept. of Zoology, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (October, 1997) | Dr. A.D. Diwan
Principal Scientist |

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|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 24. FORV Sagar Sampada Cruise No.160 organised by DOD (20 November - 28 November, 1997) | Shri R.K. Langer,
Technical Officer |
| 25. National Workshop on Fish and Shellfish Health Management organised jointly by CIFA, Bhubaneswar, Association of Aquaculturists, Bhubaneswar and Indian Aquaculture Society, Mangalore at CIFA, Bhubaneshwar (18-19 November, 1997) | Dr. K. Pani Prasad,
Scientist |
| 26. Valedictory function of H-Ward Inter-School Science Exhibition held at Cardinal Gracias High School, Bandra (East), (27 November, 1997) | Dr. N.K. Thakur,
Joint Director |
| 27. National Conference on Environmental Issues, Impact Assessment and Resources Management organised by the Society of Nature Conservators, Muzaffarnagar (November, 1997) | Dr. A.D. Diwan,
Principal Scientist |
| 28. International Seminar on Food Security in Harmony with Nature organised by IFOAM-ASIA in association with University of Agricultural Sciences, Bangalore, (1-4 December, 1997) | Dr. K. Pani Prasad,
Scientist |
| 29. Meeting of Registrars of SAUs and Deemed Universities under ICAR held at New Delhi | Dr. R.S. Biradar
Senior Scientist |
| 30. Second Indian National Conference on Harbour and Ocean (ICHOE-97) at Thiruvananthapuram (7-10 December, 1997) | Mr. Chandrakant,M.H
& Mr. N.L.Singh
Technical Officers |
| 31. Workshop on Presentation and Preparation of Progress in Hindi at NAARM, Hyderabad (10-12 December, 1997) | Mr. R.P. Uniyal
Asst. Director (OL)
and Ms. Rekha Nair
Hindi Translator |
| 32. National Workshop on New Economic Policy: Opportunity and Challenges for Sustainable Development of Fisheries and Conservation of Aquatic Resources held at Bhopal (15-16 December, 1997) | Dr. S.S.H. Razvi,
Scientist (SS)
Dr. Somdutt,
Scientist,
Shri V.K. Tiwari
Scientist,
Shri R.K. Upadhyay,
Technical Officer and
Shri V.G. Dubey,
Technical Officer |
| 33. Global Seminar on Transformation of Organisations through Project Management held at New Delhi (15-17 December, 1997) | Dr. R.S. Biradar
Senior Scientist |
| 34. Zonal Aquaculture Rehabilitation Meet organised by NABARD, Mumbai (3 January, 1998) | Shri A.K. Reddy,
Technical Officer |

35. Symposium on Perspectives in Biomolecular Research at Central Research Institute, Lucknow (12-13 January, 1998)	Mrs. Aparna Chaudhari Scientist
36. Farmers meet on Sustainable Shrimp Farming organised by the Marine Products Exports Development Authority, Vijayawada in association with East Godavari District Shrimp Farmers' Association, Kakinada (23 January, 1998)	Dr. G. Gopalkrishna Senior Scientist
37. Conference of Senior Officers of Social-Forestry, Govt. of Maharashtra organised by Department of Rural Development and Water Conservation, at New Zealand Hostel, Aarey Colony Goregaon (28-30 January, 1998)	Shri A.K. Reddy, Scientist
38. National Conference on Frontiers of Biotechnology organised by Govt. Institute of Science, Maharashtra (February, 1998)	Dr. A.D. Diwan Principal Scientist
39. Workshop on Editing of Home Publications organised by Rajbhasha Kiran at Bhopal (5 February, 1998)	Mr. R.P. Uniyal Asst. Director (O.L.)
40. Indo-US workshop on Lead and other Heavy Metals Sensitive Population at High Risk organised by Industrial Toxicology Research Centre (ITRC) Lucknow (10-12 February, 1998)	Shri R.K. Langer, Technical Officer & Dr. P.K. Varshney, Scientist
41. Symposium on Advances and Priorities in Fisheries Technology organised by Society of Fisheries Technologists and CIFT, Cochin (11-13 February, 1998)	Dr. S. Basu, Scientist
42. Task Force Committee on Fish Stock Assessment held at FSI Mumbai (2 March, 1998)	Dr. R.S. Biradar, Scientist
43. ICAR Directors' Meet at ICAR, New Delhi (04-05 March, 1998)	Dr. S.A.H. Abidi, Director and Dr. N.K. Thakur Joint Director
44. ARS Committee Meeting of ICAR, New Delhi, (9 March, 1998)	Dr. S.A.H. Abidi, Director
45. Regional Conference on Official Language at Aurangabad (17 and 18 March, 1998)	Mr. R.P. Uniyal Asst. Director (O.L.)

Details of participation

 Name and Designation of participant(s)


13.2 PARTICIPATION OF FACULTY IN CONFERENCES, MEETINGS, WORKSHOPS, SYMPOSIA, ETC ABROAD


Name & Designation		
<input type="checkbox"/>	1. Dr.W.S.Lakra, Sr.Scientist.	Second Asia-Pacific Marine biotechnology Conference, Phuket, Thailand.7 to 10 May 1997
<input type="checkbox"/>	2. Dr. S.A.H.Abidi, Director.	Children's Environmental Conference, Doha, Qatar. 19 to 21 September,1997

13.3 PARTICIPATION OF FACULTY IN TRAINING PROGRAMMES IN INDIA

1. Shri R.K. Upadhyay, Tech.officer Shri K.Murali Mohan, Tech. Assistant	Modern approach to Aqua feed formulation and on-farm feed management Cife, Mumbai 18-27 February 1997
2. Dr. Bharat S. Sontakki, Scientist and Mrs. Madhavi Pikle Tech. Assistant	Nineteenth Appreciation culture on Parliamentary Procedure and processor for professors and lectures of Universities and colleges in India. Bureau of parliamentary studies and training , Loksabha Secretariat at Parliament Annexe, New Delhi (23-27 June 1997)
3. Ms. Rekha Nair, Hindi Translator and Mrs.Sanyuja Parab, Junior Clerk	Hindi Translation Training Programme Central Translation Bureau (01 July-30 September 1997)
5. Dr. C. S. Chaturvedi Technical Officer and Mr. R. K. Upadhyay Tech.officer	Management of information system for Agricultural research. NAARM, Hyderabad 15-26 July, 1997.
6. Dr. U. K. Maheshwari Senior Scientist	Advance training on human resource development in agricultural science NAARM, Hyderabad 22 July to 02 Aug., 1997
6. Mrs. Madhavi Pikle, Tech.AssistantT-II-3 and Ms. Rajani Pagare T-II-3	Novell Netware 4.1, windows, MS-Office and Visual C++, HCL-HP CIRCOT Mumbai 31 July to 8 August, 1997.
7. Mr. K. P. Khalsa Tech. Officer	Workshop on software Review of library Automation NAARM,Hyderabad 28 July - 30 July, 1997
8. Dr. Bharat S. Sontakki, Scientist	Management of Information centres NAARM, Hyderabad 02-12 September, 1997 Training-cum-Workshop on NICNET service programme National Informatics Centres, New Delhi, 4 September, 1997
11. Shri D. Bhoomaiah, Tech. Officer	Videography in Agriculture NAARM, Hyderabad,15-27 September, 1997


12. Shri A.K. Sharma, Scientist	Hatchery Management and culture of Freshwater Prawn <i>Macrobrachium rosenbergii</i> CIFA, Bhuvaneshwar, 30 September to 7 October, 1997
14. Shri P. K. Das Sr. Translator (Hindi) and Mrs. Chaitali Raut , Junior Clerk	Translation Training Programme Central Translation Bureau 1 October, to 31 December, 1997
15. Dr. Iftekhar Mohiuddin, Scientist	Coastal zone Management as a sustainable process International Ocean Institute, Operational Centre, Indian Institute of Technology, Chennai 15-16 October, 1997
16. Shri S.P. Singh, Tech. Officer	Hatchery Management and culture of Freshwater Prawn <i>Macrobrachium rosenbergii</i> CIFA, Bhuvaneshwar, 30 October, to 30 November, 1997
17. Dr. P.K. Varshey, Tech. Officer-T-7	Hatchery Management and culture of Freshwater Prawn <i>Macrobrachium rosenbergii</i> 4 - 30 November, 1997
18. Shir A.K. Yadav Tech. Officer	Winter school on communication skills and community nutrition, I.G. College of Home Science, Hisar, Haryana 6-26 November, 1997
19. Dr. Subrata Basu Sr. Scientist	Technology of extended foods CFTRI, Mysore 24-28 November, 1997
20. Shri R. K. Upadhyay Tech. Officer	Winter School on Communication and Community Nutrition Haryana Agriculture University, Hissar 6-16 December, 1997
21. Shri K. Venkateshvaran, Scientist	Biological Monitoring of Chemical exposure ITRC, Lucknow, 15-20, December, 1997
22. Dr. Srinivas Jahageerdar, Scientist	Application of Genetic Techniques in farm Animals NDRI, Karnal, Haryana 17 March to 4 April, 1998.


 Name & Designation

 Details of participation

13.4 PARTICIPATION IN TRAINING PROGRAMMES IN ABROAD

1. Visited Thailand on deputation to participate in a training programme on "Hydro- bloustic equipment" at SEAFDEC. 10 March to 09 April 1997	Shri A.K.Padmanabhan Technical Officer.
2. Visited Malaysia on deputation to participate in a training course on "Cement trends in Agriculture, Forestry, Natgural Resources Information" at University of Putra, Serdang, Selangor, Malaysia. 29 September to 10 October 1997	Shri.S.Natarajan Librarian
3. Visited Thailand to participate in a SEAFDEC training programme on marine engines	Mr, Satish Chodanker II- Engineer MFV Saraswati

 Details of participation

 Name and Designation

14. Workshops, seminars, summer Institutes, etc. organised

14.1 MEETING OF DEANS' COMMITTEE OF FISHERIES COLLEGES

CIFE hosted a two-day meeting of the Committee of Deans of Fisheries Colleges in India under the Chairmanship of Dr. S.L. Mehta, DDG (Edn), ICAR on 14 and 15 July, 1997 with the objectives of taking stock of the weaknesses prevailing in the undergraduate and postgraduate fisheries education in the country and develop a uniform system of fisheries education particularly at undergraduate level.

The Committee during its two-days deliberations discussed in detail several issues such as eligibility criteria for admission, semester duration and course credit, examination system, course curriculum, grading, contingencies for student practicals, etc. Aspects of best teacher award, college evaluation, organization of summer/winter schools, development of practical manuals, organising training/refresher courses,

books and norms of staff for Fisheries Colleges were also deliberated upon.

14.2 HINDI WORKSHOP

A Hindi *Karyashala* (Workshop) was organised from 08 - 12 September, 1997 in order to promote use of Hindi Language in day to day official work of the Institute. A total of 30 participants from CIFE attended this Workshop. The resource personnel were drawn from the Department of Official Language (*Rajbhasha Vibhag*), CIFE and Central Translation Bureau (*Kendriya Anuvad Bureau*).

14.3 IOI'S MEETING ON INFORMATION WEBSITE

International Ocean Institute (IOI), Malta is the only NGO at international level for promotion of ocean development and development of ocean dependent fishermen communities. With a view to assess the information requirement for the



NGO's, IOI, in collaboration with its Operational Centre, Chennai, organised an interface meeting at CIFE, Mumbai on 21 September, 1997. Dr.K.Saigal, Executive Director, IOI and Dr. R. Rajagopalan, Incharge of IOI Operational Centre, Chennai held discussions with a galaxy of delegates. Besides Dr. S.A.H.Abidi, Director and Scientists of CIFE, the meet was also attended by Scientists of the Mumbai Regional Centre of NIO, Dr. Gautham, Commissioner of Fisheries, Maharashtra, Mrs. Kavita Gupta, IAS, Managing Director, Maharashtra Fisheries Development Corporation, Mumbai, Dr. S.C. Pathak, Deputy General Manager, NABARD, Mumbai and several office bearers and members of the local Versova Fishermen Coop. Society, Versova, Mumbai.

14.4 NATIONAL SEMINAR ON VISION ON INDIAN FISHERIES OF 21ST CENTURY.

A National Seminar on *Vision on Indian Fisheries of 21st Century* was organised on 7 and 8 February, 1998 as part of the Golden Jubilee Celebrations of India's Independence at CIFE. The seminar was inaugurated by Padmabhushan Dr. R.S. Paroda, Secretary, DARE and Director General, ICAR, New Delhi. Padmashree Dr. N.Balakrishnan Nair presided over the inaugural function. The ceremony was graced by many a luminary of fisheries such as Dr.D.V.Bal and Prof.K.H. Alikunhi (both Ex.Directors, CIFE, Mumbai); Dr. K. Gopakumar, DDG (Fy), ICAR, New Delhi; Dr. P.V. Dehadrai, OSD (DIPA), ICAR, New Delhi; Prof. H.P.C. Shetty, Ex.Director of Instruction, College of Fisheries, Mangalore; Dr. S. Ayyappan, Director, CIFA; Dr. M.R. Sinha, Director, CICFRI; Dr. A. G. Ponnaiah, Director, NBFGR; Shri J.V.H. Dixitulu and several others.



Speaking on the occasion, Dr. Paroda complemented the fisheries scientists for their excellent contributions in making fisheries a fast growing sector in India and ensured all possible help from the Council to all the ICAR fisheries institutes including CIFE. He made specific references to the various new programmes of ICAR like AHRD, NATP, strengthening of biotechnology research, etc. Dr. Nair and Dr. Gopakumar also spoke on the occasion.

The seminar deliberations were organised in four technical sessions viz. i) Resource Management, ii) Aquaculture iii) Harvest and Post-harvest Technology and iv) Socio-economic aspects, communication and information technology. A total of 54 papers were orally presented.

The occasion was also used for felicitating, Dr. R.S. Paroda on the conferrment of Padmabhushan on him by the Hon'ble President of India. Three CIFE publications, viz. i) *Abstracts of the*

National Seminar on Vision on Indian Fisheries on 21st Century, ii) *Consultancy and Contractual Services in Fisheries - a Profile of Experts at CIFE, Mumbai (India)* and iii) *Deemed University of Fisheries - CIFE*, a brochure for foreign students, were also released on the occasion.

14.5 VYAKHYANMALA IN HINDI

As a part of the celebrations of Golden Jubilee Year of India's Independence a programme of *Vyakhanmala* (Lecture Series) in Hindi was organised on the theme *Matsyiki Vigyan aur Rajbhasha Hindi* on 13 February, 1998.

The following lectures were delivered :

i) *Bharat main matsya vikas hetu vittieya pravadhan* (Financial support for fisheries development in India, by Dr. S.C. Pathak;

ii) *Rajbhasha Neeti* (Official Language Policy) by Shri K.N. Mehta;



- iii) *Bharateeya Matsyiki Ki Aarthiki* (Economics of Indian Fisheries) by Dr. V.S. Somavanshi; and
- vi) *Rashtra ke Vikas Mein Bhasha ka Mahatva* (Importance of Language in National Development) by Shri Umakant Bajpayee.

Besides these lectures, specific views and opinions on the theme were also expressed by Dr. N.K.Thakur, Joint Director; Dr. (Mrs) Latha Shenoy, Scientist (SS); Dr. (Ms) Kiran Dube, Sr. Scientist; Shri S. K. Pathak, F & A.O; Shri P. K. Das, Sr. Translator (Hindi) and Shri Suneet Kumar Singh, student of CIFE and Dr. Jiyalal Ram, Sr.Scientist, BRC of NIO, Mumbai.

Two publications in Hindi were released on the occasion viz., i) *Jalchari* - the second issue of the CIFE's annual Hindi Magazine and ii) *Common carp ka Prajanaan aur Palan*.

14.6 MEETING OF HIGH POWER COMMITTEE OF ICAR.

A meeting of the High Power Committee of ICAR under the Chairmanship of Dr.A.L. Chaudhary, Chairman, Agricultural Scientists Recruitment Board was convened at CIFE, Mumbai on 27 November, 1997. This Committee was constituted by the Hon'ble Union Minister for Agriculture and President, ICAR to examine various issues relating to unification of cadres of the ICAR Research Institutes specially in terms of Recruitment Rules/qualifications, designations, inter-se seniority and transferability. Other members of the high power committee were Shri B.K. Chauhan, Secretary, ICAR; Shri B.N.P. Pathak, Legal Advisor, ICAR; Shri M.K.K. Nair, Secretary (SS), CJSC; Shri SriBhagwan Sharma, Secretary (SS), HJSC; Shri Devendra Singh, Dy. Secretary (Admn.) and Shri N.S.Randhawa, Under Secretary (Admn.). The IJSC Secretaries (Staff side) and Administrative Officers of a number of ICAR Institutes such as CIFE, Mumbai; CIRCOT, Mumbai; CICR, Nagpur; NBSS & LUP, Nagpur; DRR, Hyderabad; DOR, Hyderabad; NAARM, Hyderabad; CRIDA, Hyderabad; CIAE, Bhopal; IISS, Bhopal; NRCG, Junagarh; IIHR, Bangalore and ICAR-RC, Goa attended this meeting.



15. Distinguished visitors

PARLIAMENTARY STANDING COMMITTEE ON AGRICULTURE (GROUP-II)

Hon'ble Members of the Parliamentary Standing Committee on Agriculture (Group - II) visited CIFE, Mumbai on 01 October, 1997. The Committee under the Chairmanship of Shri Santosh Kumar Gangwar, MP, consisted of S/Sh. Shariefud-din Shariq, Devi Prasad Singh, Suresh R. Jadhav, Gulam Mohd. Mir Magami, Ramesh Bais and Ananta Sethi, the Hon'ble Members of the Parliament. They were accompanied by Shri S. Balshekar, Dy. Secretary, Lok Sabha and Shri P.N. Mishra, Private Secretary.

The Hon'ble Committee evinced keen interest in the activities of the Institute and held elaborate discussions with the Director and the Heads of Division. The Hon'ble Committee members then visited the Library and the Laboratories besides the site of New Campus of the Institute.

An Exhibition highlighting the activities and achievements of CIFE was specially put up on this occasion. A cultural programme of Classical Music Recital by Padmashree Gulam Mustafa Khan, was also organised later in the evening at the CIFE premises.



Mrs. Rupa Shah
Mithibai College
Vile Parle (West)
Mumbai 400 056

01.05.97 :

As a non-science student, I was delighted and impressed simultaneously at the dynamic progress, the academic inputs of absolute commitment along with the environmental (be it lab or garden) ambience and dignity portrayed in true academic style. Sincere leadership and team spirit emanates from all corridors and corners of CIFE ! An achievement in time within time and of time, Sir, indeed.

Dr. R.S. Paroda
Director General,
ICAR,
New Delhi - 110 001

10.05.97 :

The progress being made to improve the laboratories and teaching facilities during the last one year is indeed impressive. We have to continue with the same pace and get the present building, including library facilities, renovated on priority. Also additional post-graduate programmes are to be started in areas of Fish Technology, Biotechnology, Genetics and Fish Pathology with immediate effect. All needed facilities be also planned in the new campus site so that CIFE emerges as an institution of excellence in Fisheries Education. My compliments to Dr. Abidi, Dr. Thakur and other scientists and best wishes for success in their endeavours.

Dr. M. Sinha
Director, CICFRI,
Barrackpore -743 101
W.B.

23.05.97 :

CIFE, being the only Institution in the country pursuing the important job of imparting fisheries education of a University level in India, is worth complimenting for its endeavour with meagre facilities. Renovations of laboratories is a step in right direction. But it suffers due to lack of space specially with regard to library. Hope, it would be able to overcome it in its new campus. Right steps in right direction are being taken. Wishing all success in its endeavours.

Dr. A. K. Bhatnagar
Executive Director
Indian Oil R. & D. Centre
Faridabad-121 007

24.07.97 :

India needs blue revolution as much as it needed green and white revolution. After seeing the impressive facilities and expertise of the CIFE, I am confident that India will achieve shortly its target on blue revolution. My good wishes to every one and more particularly Dr. Abidi who is giving a new direction and leadership for this noble job.

Dr. M.P. Singh
Indian Oil R. & D. Centre
Faridabad - 121 007

24.07.97 :

Visited this Institute as a novice to learn about this exciting field of fisheries. Very interesting information was obtained. I hope this Institute can provide excellent support to our Research & Development Centre in creating ecotoxicity testing facilities.

Mr. M.M.K. Sardana
Jt. Secretary
Deptt. of Science
Technology Govt. of India

29.09.97 :

I have got a wish fulfilled today when at last I was able to visit CIFE. It has been worth waiting all the time. The infectious zeal of the Director is an added asset of the Institution. I am sure the Institute will soon shift to its new campus to continue its task of contributing to the blue revolution.

Mr. Y. S. Rajan
Sr. Adviser
(Technology), C.I.I.
and Executive Director,
TIFAC

29.09.97 :

I am happy to have visited CIFE and also to have renewed my contacts with the eminent Director & VC. Agro-food processing (of which fishery is an important component) is going to be a driving force of many technologies in the country. CIFE's role is naturally going to be crucial.

Dr. P.N. Jha
Ex. V.C. RAU, Pusa, Bihar
and Member,
Governing Body,
ICAR

13.10.97 :

Visited Central Institute of Fisheries Education (CIFE) today, its various laboratories and library, etc. The Institute is doing a very good work. The facilities have been modern and ARIS and computer facilities are superb. Students and the faculty are making use of them. Library facilities need to be expanded as there is presently shortage of space. A good work on prawn culture is also being done and prawn seeds are being supplied to other organisations adding income to the Institute. The present Director, Dr. Abidul Joint Director, Dr. Thakur are taking keen interest in furthering the cause of this Institute.

Prof. H. S. Ray
Director
Regional Research
Laboratory
Pin 751 013, Orissa

20.01.98 :

I have always loved fishes - not necessarily because I am a Bengali ! There is a great deal that can be done to make fishes available to many more who perhaps cannot afford them at present. Institutions like CIFE will make this happen, I am sure. It was wonderfully educative to visit this institution. surely I will come again.

Dr. J. S. Sandhu
(FNA)
Director (Actg.)
Regional Research
Laboratory Jorhat -6
Assam

20.01.98 :

I have learned so much about fisheries i.e. different, excellent, work being carried on a variety of aspects of the subject and all this is of very high calibre and useful for the uplift of the country.

The Group of Under
Secretaries, from
GOI,
New Delhi.

22.01.98 : The Group of Under Secretaries from GOI, from New Delhi visited CIFE Bombay. The information regarding the mandate and objectives of CIFE were well defined by Dr. Randhir Singh, Scientist. He also organised the visit to Library, labs, fisheries museum, etc. at the institute and the officers incharge explained the things nicely. A fruitful and decent visit.

Dr. S.C. Pathak
Chief Gen. Manager
NABARD, Mumbai

13.02.98 : I have been a regular visitor of this great institution of fisheries education and have been impressed by its growth. The excellence and impact it has made in the fisheries sector has been phenomenal. I am sure, the institute will continue to attain laurels and would soon become a full fledged university very soon under the commendable leadership of Dr. Abidi. My best wishes to all the staff members.

Paul Kendall
Regional Manager
Asia
Simrad/AS

16.02.98 : A very interesting visit with very good prospects of a future close relationship. Many thanks.

George Mathew
Hon. Consul General for
Norway

Dr. P.C. Kesavan
Director,
Biosciences Group
BARC,
Mumbai - 400 085

Dr. K. R. Gupta
Chief General
Manager
M.T.N.L.,
Telephone House,
Mumbai -
400028

16.02.98 : Glad to note that you will have new large and modern facilities. However, existing work being done is also very interesting and useful for the nation.

17.02.98 :
Aqua-feed development is a major challenge, and manpower development in this regard is a mission. That is indeed the need of the hour to achieve environmentally sustainable and socially equitable fish farming system in India. In this regard, you are a great pioneer. You deserve all support and encouragement.

12.03.98 :
A very useful informative and educative visit. Very commendable work being done by this Institute in research, development of fish farming and in disseminating the knowledge to all field level officers and users of this technology. We assure participation in the use of telecom technology like Internet, Radiopaging and cellular phone technology for enhancing the growth of fish farming technology in the country.

16. Personnel (managerial positions only) * Not a gradation list

RESEARCH MANAGEMENT POSITIONS

DR. S.A.H. ABIDI
DIRECTOR

DR. N.K. THAKUR
JOINT DIRECTOR

SCIENTIFIC STAFF

Principal Scientists

Dr. M.P.S. Kohli
Dr. A.D. Diwan
Prof. Kuldeep Singh
Dr. R.C. Das

Senior Scientists

Dr. G. Gopalkrishna
Dr. R.S. Biradar
Dr. J.P. George
Dr.(Mrs.) R. Tewari
Dr. W.S. Lakra
Dr. K.K. Jain
Dr. S. Basu
Dr. U. K. Maheshwari
Dr. Kiran Dube
Dr. S.N. Ojha

Scientists (Sr. Scale)

Mr. K. Venkateshvaran
Dr.(Mrs.) Latha Shenoy
Dr. M.B. Iftekhar
Dr. G. Venugopal
Mr. N.K. Chaddha
Mr. Atul Kumar Jain
Mr. S. Raizada
Mr. P.K. Roy
Mr. P. M. Sherry
Mr. Alok Kumar Jain
Mr. S.S.H. Razvi
Dr. Somdutt
Mr. V.K. Tiwari

Scientists

Dr. Gopal Krishna
Dr. Randhir Singh
Dr. Bharat S. Sontakki
Mrs. Aparna Chaudha
Mr. P.K. Pandey
Mr. R.P. Raman
Dr.(Mrs.) Archana Sin
Dr. N.P. Sahu
Dr. K. Pani Prasad
Mr. S.K. Patil
Dr. S. Jahagirdar
Dr. B.B. Nayak
Mr. S. Kannappan
Dr. U.S. Pati
Dr. M. B. Patel
Dr. Sanjay Jadhav
Mrs. Shobha Sandhya
Dr. Parimal Sardar
Mr. B. N. Tiwari
Mr. A.K. Sharma

TECHNICAL OFFICERS

T-8

Mr. S. K. Pal
Mr. N. L. Singh

T-7

Mr. A. K. Reddy
Mr. Josey Jacob
Dr. P.K. Varshney
Dr. M. Ali

T-6

Mr. S. Natarajan
Mr. R. K. Langer
Dr. Chandra Prakash

T-5

Mr. A. K. Padmanabhan
Mr. A. K. Jaiswar
Mr. R. S. Rana
Mr. Alkesh Dwivedi
Mr. P.P. Srivastava
Mr. A. D. Ragabhatgat
Mr. R. D. Tandel
Mr. S.K. Pandey
Ms. U. Gadre
Mr. S.G.S. Zaidi
Mr. G.K. Rao
Mr. A.R. Warange
Mr. C.M. Hittinahalli
Mr. D.L. Sawant
Mrs. Rama Sharma

Mr. Dasari Bhoomaiah
Mr. Deepak Khogare
Mr. K. P. Khalsa
Mr. M. K. Chouksey
Mr. Satish Kamat
Mr. S.P. Singh
Mr. K. Satyanarayana
Mr. C. Thankappan
Mr. Asha T. Landge
Mr. S.K. Sharma
Mr. P. Rami Reddy
Mr. C. S. Chaturvedi
Dr.(Mrs.) Zeba Jaffar
Mr. Rakesh Kumar
Mr. K.B.S. Murthy

ADMINISTRATION AND FINANCE

S.P.O.
Mr. RaviKumar

F&A.O.
Mr. S. K. Pathak

Asst. Director (S.I.)
Mr. R.P. Uniyal

L.S.O.
Mrs. K.B. Menon
Mr. K. Mahmood

Asst. Inspector
Mr. P.B. Tandav
Mr. R. L. Mohite
Mr. Sunil Kumar

Asst. Clerk
Mrs. M. Abraham, Sr. P.A.
Mrs. T. Kurrvilla, Sr. Sten
Mr. G. S. Fernandez, Ster

17. Other activities

17.1 Infrastructural Development

New University Campus of CIFE : At its 16.5 acre site of New Campus near Yari Road, the earth filling works have been totally completed. Construction of WBM road, boundary wall, grill work, etc. are under progress and likely to be completed by July, 1998. However, other construction works were considerably slowed down due to the legal restrictions on construction activities in the Coastal Regulation Zone (CRZ-II).

The New Complex of the CIFE Centre, Calcutta constructed at the Saltlake City in Culcutta was formally inaugurated by Padmabhushan Dr.R.S.Paroda, Secretary, DARE and DG, ICAR..

The Aquatic Biotoxinology Laboratory at CIFE, the first of its kind in the nation, was inaugurated on 07 February, 1998 by Padmabhushan Dr.R.S.Paroda, Secretary, DARE, and DG, ICAR.

A new aquarium facility for ornamental fishes named as Matsyalok, was also inaugurated by Padmabhushan Dr.R.S.Paroda on 07 February, 1998.

Renovation of Laboratories/ Sections/ Residential Quarters and other structures:

The following Laboratories/ Sections/Residential Quarters were totally renovated during the year:

- Integrated Farming Laboratory
- Soil Chemistry Laboratory No.1
- Algal Culture Unit
- Transit House
- Development of Students Play Ground and Gymnasium
- Dolphin Guest House
- Principal Scientists' Rooms
- Aquarium Backyard
- Aquaculture practical Hall
- Office of the Sr. Administrative Officer
- Office of the Incharge works
- Office of the Director`s Staff

Renovation works were also taken up at all the centres to modernize the farms, Laboratories and buildings.

17.2 Library Services

Within the modest infrastructure, the CIFE Library at the Main Campus of CIFE in Mumbai continued to pursue its activities of collection, processing and dissemination of scientific and technical information on fisheries and allied subjects. Addition to the Library stock during the year



aggregated to 1170 comprising of 53 National/International journals, 712 backvolumes of journals, 4 CD-ROMs, 74 dissertations, 266 books and 61 microfiches. The annual transaction for the year 1997-98 from CIFE Library involved 22,100 number of issues/returns of various publications. In the computerised information retrieval system, a total number of 3,257 references were downloaded while another 2905 were printed out from CD ROM. As many as 400 outside users visited CIFE Library during the year.

17.3 Documentation Services

The Documentation Section of the Institute was busy year round in its activities of external reporting of the Institute's progress. While the mandatory reports like monthly reports to the Council and Cabinet Secretariat, quarterly reports, status reports/action taken reports on recommendation of ICAR Regional Committees I to VIII, annual action plan, annual report, etc. in general were compiled, edited, and transmitted,, the editorial assistance to the occasional publications of the Institute was also extended by its staff.

17.4 Official Language Implementation

The year 1997-98 saw commendable progress in the official language implementation at CIFE, Mumbai in all its spheres. While most of the office procedures, correspondence, etc were carried out in Hindi language, the Institute celebrated the Hindi Day with great fervour. A Hindi Karyashala, Lecture Series in Hindi, etc. were the highlights of the activities of Hindi Section. Hindi Section also lent its active support in bringing out various Hindi publications of the Institute.

17.5 Students Welfare Activities

Like previous years, the year 1997-98 also witnessed a host of students welfare activities organised in an effort to promote overall personality development of students. Besides the regular curricular schedules, a series of literary, cultural and sports events were organised towards this end.

RANGALI BIHU- The Spring Festival of Assam	27 April 1997
MAHARASHTRA DAY	01 May 1997
ANTI-TERRORISM DAY	21 May 1997
ANNUAL DAY OF CIFE	27 June 1997
INDEPENDENCE DAY	15 August 1997
FAREWELL FUNCTION TO OUTGOING	30 Aug to 05 Sept 1997
STUDENTS COMMUNAL HARMONY FORTNIGHT	20Aug. to 05 Sep. 1997
WELCOME CEREMONY TO NEW STUDENTS	
QUAMI EKTA WEEK	08 September 1997
ADIEU '97 GET TOGETHER ON THE NEW YEAR	'S EVE31 December 1997
REPUBLIC DAY	26 January 1998
GOLDEN JUBILEE CELEBRATIONS OF INDIA'S INDEPENDENCE	07 to 13 February 1998
HOLI	13 March 1998





हिन्दी भाग

संक्षिप्त प्रतिवेदन

भारत सरकार ने मत्स्य क्षेत्र में कार्यरत लोगों के लिए स्नातकोत्तर प्रशिक्षण प्रदान करने हेतु 1961 में केन्द्रीय मत्स्य शिक्षा संस्थान की स्थापना की। उस समय से अब तक इस संस्थान ने शिक्षा तथा विस्तार के क्षेत्र में कई महत्वपूर्ण कार्य किए हैं। 1989 में इसे समतुल्य विश्वविद्यालय का स्तर प्राप्त हुआ। भारत में मात्स्यिकी शिक्षा को उच्च स्तर का स्वरूप प्रदान करने में इस संस्थान का बहुत बड़ा योगदान रहा है। संस्थान द्वारा वर्ष 1997-98 के दौरान किए गए महत्वपूर्ण उपलब्धियों का संक्षिप्त प्रतिवेदन इस प्रकार है -

के.म.शि.सं. द्वारा किए जाने वाले सभी शैक्षणिक कार्यक्रम इसके मुख्यालय, मुंबई के साथ ही समस्त उपकेन्द्रों तथा सी.एम.एफ.आर.आई कोचीन में सुचारु रूप से संचालित किए जा रहे हैं। इस वर्ष कुल 97 छात्रों ने अपना अध्ययन सफलतापूर्वक प्राप्त किया। इसमें 50 एम.एफ.एस.सी. 34 डी.एफ.एस.सी. तथा 13 स्नातकोत्तर प्रमाणपत्र पाठ्यक्रम के छात्र थे। इस वर्ष 126 नए छात्रों ने प्रवेश लिया जिसमें 24 पी.एच.डी. 46 एम.एफ.एस.सी. 19 डी.एफ.एस.सी. तथा 37 ने स्नातकोत्तर प्रमाणपत्र पाठ्यक्रम में प्रवेश लिया। शैक्षणिक कार्यक्रम में अतिथि/विशेष व्याख्यान व अध्ययन दौरा आदि भी सम्मिलित किया गया। केन्द्रीय मत्स्य शिक्षा संस्थान में इस वर्ष दो प्रशिक्षण कार्यक्रम सी.ए.एस. के अंतर्गत आधुनिक जल आहार निरूपण तथा फार्म आहार प्रबंध तथा जल कृषि हैचरी के लिए जीवित आहार का संवर्धन विषय पर आयोजित किया गया। जिनमें मुख्य रूप से 29 अध्यापकों, वैज्ञानिकों एवं प्रबंधकों तथा बैंक अधिकारियों आदि को प्रशिक्षित किया गया।

के.म.शि.सं. के अनुसंधान प्रणाली को संस्थागत अनुसंधान परियोजना, बाहरी वित्तीय सहयोग, प्रायोजित अनुसंधान परियोजना, अल्पकालीन प्रशिक्षण एवं अनुसंधान तथा प्रायोजित अनुसंधान कार्यक्रम द्वारा संचालित किया जाता है। महत्वपूर्ण अनुसंधान उपलब्धियों के अंतर्गत आन्ध्र प्रदेश तथा तमिलनाडू के तट पर के.म.शि.सं. तथा सी.आई.बी.ए.की संयुक्त टीम द्वारा थ्रिप खेती पर अल्पकालीन अध्ययन किया गया। ऊपर दिए गए थ्रिप अध्ययन पर आन्ध्र प्रदेश तथा तमिलनाडू के 6 जिलों के कृषकों, ग्रामीण, लोगों व राज्य के कर्मचारियों से

दौरान प्रकाशित किए गए । संस्थान की वार्षिक छात्र पत्रिका **मत्स्योदय (1995-96)** को इस वर्ष राजभाषा किरण द्वारा पश्चिम क्षेत्र में **प्रथम** तथा अखिल भारतीय स्तर पर **द्वितीय** पुरस्कार से पुरस्कृत किया गया ।

अन्य क्रियाकलापों में गत वर्ष की तरह मानव संसाधन विकास, छात्र कल्याण गतिविधि तथा राजभाषा कार्यान्वयन समिति की बैठकें आदि भी समय-समय पर आयोजित किए गए ।

1997-98 के अविस्मरणीय समारोह के रूप में **स्वतंत्रता की स्वर्ण जयंती** के उपलक्ष में स्वर्णजयन्ती सप्ताह भी आयोजित किया गया ।

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