



# CMFRI newsletter

Number 1

June - September 1975

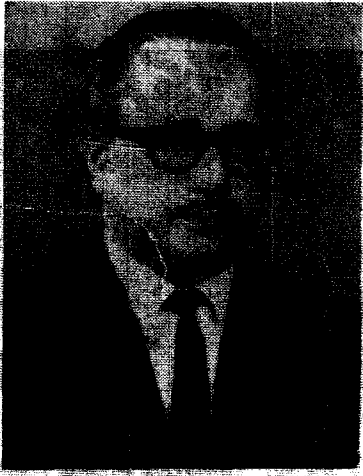
## Dr. E. G. SILAS ASSUMED CHARGE AS DIRECTOR

Dr. E. G. Silas has assumed charge as Director of the Institute on 25th June 1975. Dr. Silas, who had been associated with various research and development programmes of the Institute since 1959 and renowned for his many scientific contributions in the different fields of fishery science, has been heading, till date, the Division of Marine Biology and Oceanography of the Institute.

In his address to the staff of the Institute, soon after his assuming the new charge, he has emphasised the need of the vigorous and enthusiastic co-operation of all the staff members in resolving the present problems and facing the challenges ahead in order to keep up the tempo of achievements which brought our Institute to

the limelight and appreciation in our country and abroad.

Our Institute, he said, has planned for the next five years for greater concentration on



problems relating to major fisheries, mariculture, fisheries oceanography, codification of all fisheries data and the

speedy dissemination of all results. He stressed on the urgent need for intense interdisciplinary approach of the various scientific programmes.

A major handicap to our research programmes, he stated, was the absence of a research vessel for the Institute. Therefore, efforts will be speeded up for an early procurement of a 107-foot research vessel and the construction of additional 43-foot boats. Procurement of land and buildings and construction of laboratory for the head quarters and some of the subordinate establishments will also receive immediate attention.

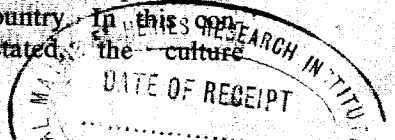
He also assured that the problems particular to our Institute like career problems will receive his priority attention.

## UNION MINISTER INAUGURATES THE PRAWN-CULTURE LABORATORY AT NARAKKAL

The prawn-culture laboratory of the Institute at Narakkal was opened by Shri. Shah Nawas Khan, Union Minis-

ter of State for Agriculture, on 11th September 1975. While opening the laboratory, The Hon'ble Minister stressed the

need for greater efforts to increase the prawn production in the country. In this context, he stated, the culture





*Hon'ble Shri. Shah Nawas Khan inaugurating the Prawn-culture Laboratory.*

programme undoubtedly has an important role to perform.

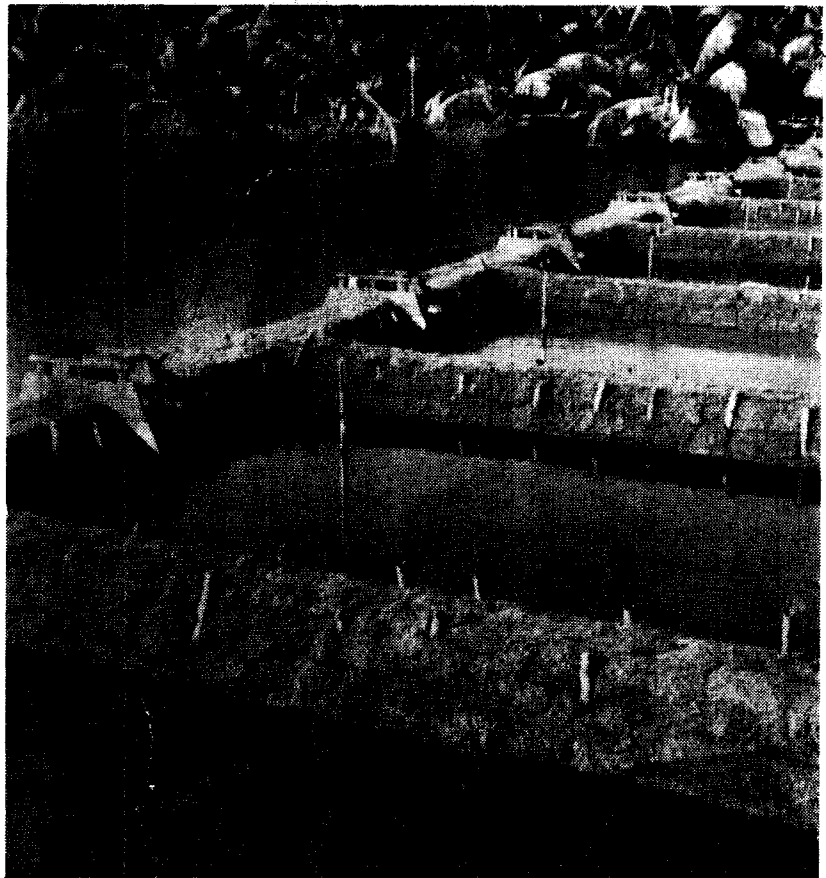
The laboratory, the first of its kind in India, air-conditioned and fully equipped to conduct research on modern lines, is built under the ad hoc scheme on Marine Prawn Culture and Propagation, on a 4-ha plot made available by the Kerala Government at Narakkal, Vypeen Island, to carry out research and field experiments on stocking and rearing of prawns.

The Director in his welcome speech stated that the results of this research programme can eventually bring the vast stretches of 'Khar' and 'Kazan' lands of Karnataka, Goa and Maharashtra into a system where paddy and prawns could be harvested alternately which would greatly improve the rural economy of these areas. Shri. K. H. Mohamed, Fishery Scientist, who is in charge of the project, while thanking the guests stated that during

the short time since the scheme has come into operation it was possible to locate large concentrations of seed-prawns of the most favoured species,

*Penaeus indicus*, in the surf waters at Narakkal. The method of collection, he said, is already perfected so that it is now possible to collect up to ten lakhs of post-larvae daily during peak seasons. Shri. R. Madhavan Nair presided over the function.

The Hon'ble Minister later visited the mussel and pearl-oyster farms of the Institute at Vizhinjam where he was introduced to the various activities related to our aquaculture programmes. The methods of culturing artificial pearls were demonstrated to him and the Minister evinced keen interest in these demonstrations. He himself was able to introduce the nuclei in the oysters.



*The prawn-culture ponds at Narakkal*

## OUR STEP FORWARD

Observations at Mandapam indicated two peak spawning periods for mackerel, March-April and September-November.

The Institute is providing technical assistance for demonstrating to the farmers, the use of salt pans at Neellarevu, south of Kakinada, for the production of fish (chanos and mullet) and prawns (*Penaeus monodon* and *P. indicus*) during months when they are not utilized for salt production.

Existence of a potential bed of edible molluscs (mainly, *Meretrix*, *Arca* and *Ostrea*) at Bhimilipatnam near Waltair, has been reported.

The viability of whiting (*Sillago*) culture in the estuarine ponds is demonstrated at Mangalore.

Mass cultures of phyto- and zooplankters are being developed in the laboratory at Cochin for feeding larval prawns, and for other experimental works.

Intensive hydrographic and biological studies of the mud banks of Purakad near Alleppey had been carried out with great success.

Transplanted mussel spats from Cape Comorine have started spawning at Tuticorin harbour basin where it is stocked for culture. As a result

of this, spat settlements were also noticed for the first time in the outer area of Tuticorin Major Harbour.

A process of using synthetic and organic non-conventional nuclei, such as high-density plastic beads and ivory beads, and using Indian instruments for pearl culture is evolved at Vizhinjam. A highly economical cage for rearing oysters and spat is also developed.

Tow-net collections have revealed an abundance of penacid post-larvae in the surf waters at Calicut as was earlier reported from Narakkal. Systematic collections have been commenced to quantify this prawn seed resource.

Large scale colonization of the edible seaweed, *Gracilaria edulis* is observed at Vedalai near Mandapam, where this was not of common occurrence

till recently. The inhabitants of this coastal village used to unload here large quantities of this algae brought from the nearby islands, and the present colony has resulted from the holdfasts thrown overboard along with wastes.

With the commencement of production at the Caustic Soda/Chlorine Unit at Binage, near Karwar and the consequent discharge of effluents into the nullah, a Monitoring Programme to study the effects of those effluents on the environment was initiated at the request of the Chairman, Karnataka State Board for Prevention and Control of Water Pollution, Bangalore. Weekly reports are being made available to the Chairman. On 28th June, mass mortality of fishes, like catfish and mullets was noticed in the nullah, which was found to be due to excessive chlorine in the factory effluent. Similar mortality was again noticed in August.

## OUR NEW PROJECTS

### Co-operative Prawn Farming at Narakkal

The project is designed to demonstrate the brackishwater culture based on the technique evolved at the Institute, of the large-growing prawns (*Penaeus indicus* and *P. monodon*) as a viable industry. The objective is to attract private entrepreneurs and institutional financing to the utilization of the extensive waste or ill-utilized coastal swamps for the

industrialized production of prawns for export. The young ones of these prawns which occur abundantly in the backwater, if collected and stocked in suitably made brackishwater ponds, are expected to yield the marketable size in a 5-month period. The project also aims to train interested bodies in these modern farming techniques.

The project is initiated under the co-operation of the

Government of Kerala. The Marine Products Export Development Authority and CMFR Institute.

### **National Programme of Tagging Mackerel, Oilsardine and Prawns**

The Project is under way to mark large numbers of mackerel, oilsardine and prawns and release them in the sea off Cochin. It is expected that atleast 25,000 each of mackerel and oilsardine, and 50,000 prawns will be marked and released during the forthcoming period, October-January. The programme is initiated with the object of obtaining the needed information on the age, rate of growth and movements of these species.

Tagging and recovery of these fishes have been attempt-

ed by the Institute on previous occasions at the instance of the National Tagging Committee. The present project is designed with modifications and improvements based on the previous experience.

### **Experimental Culture of Economically Important Seaweeds**

Experiments on culture of economically important seaweeds like *Gelidiella acerosa*, *Gracilaria edulis*, *Sargassum* and *Turbinaria* were commenced from July in selected places in Palk Bay and Athankarai estuary to examine the feasibility of a profitable industry based on the culture of these algae. Preliminary experiments showed a relatively better algal growth in the Bay than in the estuary.

Mixed culture of mussels, oysters and commercially important seaweeds has been initiated at Tuticorin Vizhinjam and Calicut,

A special survey has been initiated of the edible-oyster resource of Attankarai estuary near Mandapam.

Marine fish- and prawn-seed survey along the Tamil Nadu and Kerala coasts has been taken up to assess the seed potential for aquaculture.

Project is under way to map out locations of other resources such as clams, mussels, edible and pearl oysters and seaweeds along the coasts and in estuaries.

## **CONSULTANCY**

The tolerance limit of marine organisms to oil pollutants have been reported to the Government of India in reply to their query in July. It has been established as a result of our experiments conducted on the subject, that 24 hr LC<sub>50</sub> (Lethal concentration at which 50% animals die after a duration of 24 hr) is 1000 ppm.

Information on the effect of other pollutants (based on the results obtained elsewhere) such as surfactants, metal ions, detergents, oil dispersants, insecticides, herbicides and miscellaneous chemicals was also furnished.

The following Govt. departments, Institutions, Agencies and persons also received our services during the period, by way of data, technical advice and other information:

1. Centre of Study of Regional Development, Jawaharlal Nehru University, New Delhi-57.
2. Dr. K. A. Zachariah, Man Power Development Scheme, University of Cochin, Cochin-16.
3. Director, Bureau of Economics and Statistics, Govt. of Andhra Pradesh, Hyderabad-4.

4. Director, Bureau of Economics and Statistics, Govt. of Karnataka, Bangalore-1.
5. Director of Fisheries, Govt. of Tamil Nadu, Madras-600006.
6. Director of Fisheries, Govt. of Andhra Pradesh, Hyderabad.
7. Project Co-ordinator, Central Food Technological Research Institute, Mangalore-1.
8. The Marine Products Export Development Authority, Cochin-16.
9. Director, Bureau of Economics and Statistics, Pondicherry.

10. Joint Director of Fisheries, Kerala, Cochin-11.
11. Director of Statistics, Govt. of Tamil Nadu, Madras-600006.
12. Deputy Director of Fisheries, Govt. of Orissa, Cuttack.
13. Additional Director of Fisheries, Govt. of Andhra Pradesh, Hyderabad.
14. Director of Fisheries, Govt. of Kerala, Trivandrum.
15. Industrial Credit and Investment Corporation of India Ltd., Bombay.
16. Shri. K. Mamoo, Irikkur, Cannanore Dist. Kerala.
17. Mermaid Marine Products Pvt. Ltd., Mangalore.
18. Grindlay's Bank Ltd., Calcutta.

#### **New Research Scholars Recruited**

The following were appointed as Research Scholars and problems allied to the Institute's Projects (as indicated against their names) were assigned to them:

1. Mrs. Diewthimani Viswanath, M.Sc. — Studies on the kidney of some estuarine fishes.
2. Miss N. U. Pennamma, M.Sc. — Studies on the reef-building polychaetes of Cochin area.
3. Miss. T. V. Anitha, M.Sc. — Studies on the taxonomy, biology and ecology of Mysidacea of the west coast of India.
4. Miss. A Radhamani, M.Sc. — Studies on Alpheidae (snapping shrimps) of the southwest coast of India.

## **GENERAL**

Dr. Silas, Director, is nominated as a Member of the Executive Committee and the Governing Council of the Kerala Agricultural University.

The Director has been nominated by the Council to serve as Member of the Kerala Fisheries Research Committee for three years.

#### *Engagements*

Dr. Silas and Shri. K. H. Mohammed, FS (Crustacea), attended the meeting convened by the Kerala Government to consider intensive utilisation of brackishwater of the State, for prawn culture, on June 26, 1975.

The Director and FS (Crustacea) also attended the Fifth Meeting of the Central Advisory Committee for Exploratory Survey of Marine Fisheries, at Panaji on 13 and 14 August 1975. The draft Atlas on 'Prawn Fisheries and Resources', prepared by the Institute, was placed before the Committee for consideration.

The Director attended the Executive Committee meetings of the Kerala Agricultural Uni-

versity, at Trichur on 25 August and 19 September 1975.

Dr. M. S. Prabhu, FS (Fishery Survey & Statistics) and Shri. S. K. Dharmaraja, AFS (Statistics), attended the meeting convened by the Govt. of Goa at Panaji for reconciliation of estimates of marine fish production of the state for 1974, on 19 September 1975.

Dr. P. A. Thomas, SRA attended the 2nd Subcommittee meeting on Exploratory Survey of Marine Fisheries held at Panaji on 11th September 1975.

Dr. M. V. Pai, JFS and Shri. Annigeri, AFS attended the meeting of the Committee on Government Assurances of the Legislative Assembly at the Caustic Soda|Chlorine Unit, Binage on September 15, 1975 to discuss the problem of pollution.

The Second Zonal Survey Staff Meeting of the Institute was held at the Substation, Karwar from 17 to 18 September 1975. The survey staff were also given a refresher course on methodology for estimation of marine fish production in Karnataka and Goa.

## **TRAINING OFFERED**

Shri. Ahmed Latif, a Colombo Plan Trainee from Maldives, who is on an 8-month training programme on Fishery Survey and Statistics, has undergone the initial training in the Institute HQ on Fishery

Statistics, during May 1975.

A team of eight FAO-sponsored Indonesian trainees had 10-day specialised training in Fishery Statistics at the Institute, during July 1975.

## VISITORS

Shri. Shah Nawas Khan, Union Minister of State for Agriculture Irrigation and Waqf visited the Institute on 11 September 1975. The Hon'ble Minister also visited our Substation at Vizhinjam on 12-9-1975.

Dr. Odd M. Swedrtad, Institute of Marine Research, Bergen, Norway visited the Institute on June 24, 1975.

Dr. H. H. L. Allsop, IDRC Fisheries, Canada visited the Institute on 4-8-1975. He also visited the Field Laboratory at Narakkal.

Shri. N. Swaminathan, Addl. Secretary, ICAR visited the Institute during the first week of September 1975.

Shri. K. S. Chabra, Assistant Internal Financial Adviser, ICAR, visited the Institute during 12-15 September 1975.

## STAFF NEWS

### Reliefs for Higher Studies

The Institute takes pleasure in acknowledging Annamalai University and, particularly Dr. R. Natarajan, Director, Centre of Advanced Study in Marine Biology, Porto Novo, for their generous consideration in admitting the following scientific staff of the Institute to the 2 year M.Sc. course in addition to the five who are already undergoing the course there:

1. D. Vincent, LFA.
2. Jacob Jerold Joel, JSA.
3. S. K. Balakumar, JSA.
4. M. Ayyappan Pillai, JSA.
5. P. Karunakaran Nair, JSA.
6. C. Kasinathan, JSA.
7. R. Thangavelu, LFA.
8. N. Sundaram, LFA.
9. D. Kandasami, JSA.
10. S. Vijayabhaskar, JSA.
11. K. K. Balasubramanian, JSA.

### Appointments

Shri. Durga Saniya Harijan is appointed as sweeper at Karwar w.e.f. 4-9-1975.

Shri. M. Najmuddin as Laboratory-cum-Field Assistant w.e.f. 13-6-1975 AN.

Shri. K. Kannan as Laboratory-cum-Field Assistant w.e.f. 25-6-1975 FN.

### Transfers

Shri. K. Ramasomayajulu LFA from Srikakulam to Gopalpur.

Shri. P. Ananda Rao JSA from Gopalpur to Machilipatnam.

Shri. A. C. Sekhar JSA from Machilipatnam to Waltair.

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## Indian Journal of Fisheries

Volume 21 No. 1  
is issued in September  
1975.

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Shri. M. V. Somaraju JSA from Waltair to Ongole.

Shri. S. Balasubramaniam JC from Waltair to Madras.

### Reliefs

Shri. M. Kumaran, Curator is relieved of his post w.e.f. 30-6-75 AN to take up the post of Biologist at the Pelagic Fisheries Project.

Shri. V. N. Bande AFS is relieved of his post w.e.f. 16-8-75 AN to take up the post of Biologist at the Pelagic Fisheries Project.

Shri. Lakshminarasimhan JC is relieved of his post on resignation.

### Retirement

Shri. K. O. Thamodaran, Laboratory Attendant retired from service w.e.f. 31-7-1975.

### OBITUARY

*We are sorry to announce the sudden death of Shri. M. Krishnan, one of our able Laboratory Attendants, on the evening of September 26, 1975. Shri. M. Krishnan was serving our Institute for the past twenty years.*

**STATEWISE MARINE FISH LANDINGS IN INDIA DURING 1974 (In tonnes)**

No.	Name of Fish	West Bengal & Orissa	Andhra	Tamil Nadu	Pondicherry	Kerala	Karnataka	Goa	Maharashtra*	Gujarat**	Andamans	Lakshadweep	Total
1.	Elasmobranchs	1,672	11,394	23,025	186	10,338	2,007	387	6,538	10,227	27	253	66,054
2.	Eels	84	451	296	3	49	8	—	674	2,446	—	—	4,011
3.	Cat fishes	1,232	15,890	10,322	65	33,526	2,011	348	7,240	5,548	14	—	76,196
4.	<i>Chirocentrus</i>	565	2,281	1,625	58	860	684	78	1,135	1,722	18	—	9,026
5. (a)	Oil Sardines	4	564	—	—	1,02,135	20,784	2,106	1,083	—	—	—	1,26,676
(b)	Other sardines	1,740	31,520	15,430	1,203	31,335	228	1,172	1,238	—	55	—	83,921
(c)	<i>Hilsa ilisha</i>	3,513	—	14	—	—	459	—	4	258	—	—	4,248
(d)	Other <i>Hilsa</i>	207	2,347	681	173	33	1	—	800	3,292	7	—	7,541
(e)	<i>Anchoviella</i>	362	9,869	10,745	692	19,463	51	—	272	—	53	—	41,507
(f)	<i>Thrissocles</i>	785	1,895	4,645	519	1,321	1,079	81	869	239	—	—	11,433
(g)	Other clupeids	2,122	10,195	2,815	71	1,323	957	276	13,892	11,557	18	—	43,226
6. (a)	<i>Harpodon nehereus</i>	1,326	125	—	—	18	5	—	29,989	29,675	—	—	61,138
(b)	<i>Saurida and Saurus</i>	5	267	1,196	26	8,839	3	1	637	1,546	—	—	12,520
7.	<i>Hemirhamphus &amp; Belone</i>	—	194	3,949	21	331	5	—	33	5	9	27	4,574
8.	Flying fish	—	2	726	110	2	—	—	2	127	—	43	1,012
9.	Perches	38	2,213	8,426	132	20,970	203	9	2,111	2,462	114	159	36,837
0.	Red mullets	20	305	1,959	76	3,881	—	34	701	1	—	32	7,009
1.	Polynemids	313	2,231	877	25	3	16	44	1,797	5,331	—	—	10,637
2.	Sciaenids	1,671	12,358	9,943	250	9,220	3,208	883	17,453	24,275	—	—	79,261
3.	Ribbon fish	550	11,834	8,369	236	30,192	303	111	9,585	1,849	—	—	63,029
4. (a)	<i>Caranx</i>	27	2,901	5,188	472	5,260	771	952	2,535	1,068	81	61	19,316
(b)	<i>Chorinemus</i>	212	1,620	1,541	2	72	72	4	179	95	—	—	3,797
(c)	<i>Trachynotus</i>	—	—	2	—	—	115	—	5	—	—	—	122
(d)	Other carangids	1	—	2	—	73	11	—	4	—	—	—	91
(e)	<i>Coryphaena</i>	—	101	77	5	94	—	—	9	—	—	—	286
(f)	<i>Elacate</i>	16	2	101	—	35	54	—	21	—	—	—	229
5. (a)	<i>Leiognathus</i>	399	4,830	23,906	249	17,518	2,058	1,420	473	2	47	—	50,902
(b)	<i>Gazza</i>	—	12	28	—	5	—	—	293	—	—	—	338
6.	<i>Lactarius</i>	24	1,914	722	12	2,904	1,546	373	431	987	—	—	8,913
7.	Pomfrets	1,110	3,945	720	24	1,500	303	96	6,683	8,029	11	—	22,421
8.	Mackerel	211	1,734	2,639	2,317	10,335	9,696	7,905	2,587	—	38	—	37,462
9.	Seer fish	1,169	4,438	5,178	68	4,909	1,532	273	1,434	686	63	91	19,841
0.	Tunnies	9	683	1,691	9	5,927	394	—	286	579	7	1,254	10,839
1.	<i>Sphyaena</i>	5	19	800	28	3,865	26	—	21	54	26	18	4,862
2.	<i>Mugil</i>	40	1,848	261	1	955	—	5	22	1,291	74	—	4,497
3.	<i>Bregmaceros</i>	—	—	—	—	—	—	—	1,806	66	—	—	1,872
4.	Soles	100	220	1,247	48	12,771	2,377	196	502	1,456	—	—	18,917
5. (a)	Penaeid prawns	2,322	9,857	8,060	27	59,815	12,695	1,448	14,712	5,970	28	—	1,14,934
(b)	Non-penaeid prawns	1,165	2,842	46	2	1,014	1	—	50,025	149	—	—	55,244
(c)	Other crustaceans	45	934	9,752	201	2,886	1,742	86	973	44	—	—	16,663
6.	Cephalopods	—	165	955	28	2,175	20	14	298	7	—	15	3,677
7.	Miscellaneous	3,028	4,818	7,754	359	14,305	10,838	1,232	5,609	24,266	230	279	72,718
	<b>TOTAL</b>	<b>26,092</b>	<b>1,58,818</b>	<b>1,75,713</b>	<b>7,698</b>	<b>4,20,357</b>	<b>76,263</b>	<b>19,534</b>	<b>1,84,961</b>	<b>1,45,309</b>	<b>920</b>	<b>2,232</b>	<b>12,17,797</b>

\* Provisional

\*\* exclusive of the catches by the Gujarat boats landed at Satpati, Maharashtra.

# New Additions To Our Libraries

## Head Quarters Library

### Books:

Advances in Marine Biology, Vol. 12.	..	..	F. S. Russel & M. Yonge.
Fish and Fisheries of India.	..	..	V. G. Jhingran.
Elements of Marine Ecology.	..	..	R. V. Tait.
Behavioural Aspects of Ecology.	..	..	Peter H. Clopper.
Oceanology; an Introduction.	..	..	Dale E. Ingmanson.
Energetics, Kinetics; an Ecological Approach	..	..	G. Tyler Miller.
Introduction to Skin and Scuba Diving.	..	..	J. D. Crig & Morganegn.
Marine Climatological Summaries.	..	..	Govt. India, Meteriological Dept.
Biochemistry of the Nuclie Acids.	..	..	J. N. Davidson.
Animal Body Fluids and their Regulation.	..	..	A. P. M. Lockwood.
Physical Chemistry.	..	..	A. J. Mee.
Land and Water Management Problems in India	..	..	B. B. Vohra.
Environmental Power and Society.	..	..	H. T. Odum.

### Journals:

Indian Journal of Experimental Biology, Vol. 12, 1974.	
Indian Journal of Marine Sciences, Vol. 3, 1974.	
The Papua New Guinea Agricultural Journal, Vol. 24, No. 3, 1975.	

## Regional Centre Library, Mandapam

Histological Technique, Revised.	..	..	R. A. B. Drury & E. A. Wallington.
Symposium on Development of Deep-sea Fishing, 1970.			Ministry of Food and Agriculture, Govt. of India.