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Breakthrough in Pacific White Shrimp Farming

Dr. S. Ayyappan, Secretary, DARE and Director General, ICAR, inaugurated the first harvesting of the Pacific Shrimp *L. vannamei* at Rohtak Centre of CIFE on September 5, 2012. The Director General was accompanied by Dr. B. Meena Kumari, DDG (Fy.), Dr. Madan Mohan, ADG (Marine Fy.). Dr. W. S. Lakra, Director, CIFE welcomed the team and apprised them about the new initiatives on breakthrough achievement in the culture of *L. vannamei* at Rohtak Centre.

The culture of *L. vannamei* in inland saline soils using ground saline water at Baniyani Farm, Lahli, Rohtak, Haryana with a salinity of 13-15 ppt is the first attempt by the Institute in the country towards utilizing degraded land. The ground water at the Baniyani farm is deficient in potassium and was fortified with commercial fertilizer Murate of Potash to a level of 50-60% of natural sea water potassium and *L. vannamei* was stocked at the rate 60 Nos. / m² (6.0 lakhs/ha) on 21st May, 2012 and grown to an average size of 23.5 g in 120 days and achieved a production of 8.10 ton/0.60 ha (13.5 ton/ha). The Director General reviewed the programs of the Centre and provided several new ideas including the culture of *Penaeus indicus*. The results of the present demonstration will boost the inland saline aquaculture and species diversification in degraded lands in a big way which in turn will provide self-employment and livelihood to rural men and women.

Training Programmes conducted at CIFE (HQ & its Centres)

Sr. No.	Date	Training Programme	Place	No. of Participants
1.	13-18 April, 2012	Inland Fisheries and Aquaculture	Kolkata	13
2.	29.4.2012 to 8.5.2012	Freshwater Fish Farming	Kolkata	11
3.	03.04.2012	Orientation Training on Ornamental Fish Breeding and Culture	Kolkata	21
4.	14.04.2012 to 15.04.2012	Orientation Training on Modern Pisciculture and Advanced Technologies in Aquaculture	Kolkata	25
5.	04.07.2012 to 13.07.2012	Magur Hatchery Management and Seed Production	Powerkheda	08
6.	10.07.2012	Fish Farmers' Day	Kakinada	02
7.	16.07.2012 to 18.07.2012	Value Added Fish Product Preparation	CIFE (HQ)	15
8.	18.07.2012 to 27.07.2012	Carp Breeding and Hatchery Management	Powerkheda	21
9.	24.07.2012 to 30.07.2012	Recent Advances in Aquaculture Technologies	Kolkata	05
10.	22.08.2012 to 28.08.2012	Freshwater Prawn Farming	Powerkheda	14
11.	22.08.2012 to 28.08.2012	Entrepreneurship Development in Ornamental Fish Breeding and Culture	Kolkata	18
12.	23.08.2012 to 29.08.2012	Seed Production and Culture of Magur	Kakinada	01
13.	29.08.2012 to 07.09.2012	Fish and Prawn Culture	Powerkheda	20
14.	30.08.2012 to 31.08.2012	Training cum exposure visit on Ornamental Fish Breeding & Culture	Kolkata	15
15.	30.08.2012 to 08.09.2012	Freshwater Aquaculture	Kolkata	23
16.	11.09.2012 to 20.09.2012	Carp Culture Practices and Recent and Advances	Powerkheda	21
17.	19.09.2012 to 28.09.2012	Fish and Prawn Culture	Kakinada	30
18.	20.09.2012 to 29.09.2012	Fish and Prawn Culture	Kolkata	25
f19.	24.09.2012 to 03.10.2012	Fish and Prawn Culture	Powerkheda	19
Total				307



FIELD VISIT- CUM - TRAINING FOR M.F.Sc. STUDENTS AT MAYANK AQUACULTURE PRIVATE LIMITED, SURAT

A field visit–cum–practical training was arranged for 30 M.F.Sc students of Aquaculture, FRM, PHT, Fisheries Economics and Extension Divisions to MAYANK AQUACULTURE PRIVATE LIMITED, SURAT, in the month of June, 2012 as part of the practical lessons for major course Coastal Aquaculture, (AQ 506). The visit was an eye opener for the students as they were introduced to an array of coastal aquaculture practices, especially shrimp farming. The farm is a brainchild of Dr. Manoj Sharma, Director (an alumnus of CIFE), who has spearheaded shrimp farming in the barren unproductive lands of Hajira, Surat, Gujarat.

Educational Cruise

After undergoing massive repairs M.F.V. Saraswati went on a trial cruise on 11.05.12. Following that it embarked on one cruise from 21.5.12 to 25.5.12 (5 days) in which 6 students from FRM discipline participated and another was on from 28.5.12 to 31.5.12 (4 days) in which 11 students from aquaculture participated and underwent onboard training. Apart from these M.F.V. Narmada sailed for onboard training and research on 12 occasions each for one day duration during which students from various disciplines participated.

CIFE celebrates Agriculture Education Day

CIFE celebrated Agriculture Education Day on 5 September 2012. On this occasion a students' competition was held in which participants were provided with a short scientific popular article, based on that they prepared a powerpoint presentation in 1h 30min and presented it before CIFE faculty and students. Students participated in the event with great enthusiasm. First, second and third prizes in the Masters' student group were awarded to Mr. SatyaPrakash, Mr. Sujit Kumar and Mr. Rameez Roshan, respectively. In the Ph.D group the first, second and third prizes were awarded to Ms. Shamna N., Mr. Murali S. and Ms. Piyashi Debroy, respectively.

The Science Club of CIFE organized the following talks during April 12 to Oct 2012

1. Mangroves of Mumbai- Importance and Strategies for Protection by Mr. Rishi Aggarwal (Associate Professor - Institutional Relations at EMBARQ India and Mangrove Protection Activist) on 28.04.12
2. Sampling Methods and Data Analysis in Fisheries by Dr. R.S. Biradar (Joint Director, CIFE) on 30.05.12
3. ProQuest and Retrieval of Scientific Literature' by Mr. Surjit Bisht (Area Sales Manager - Western India) on 23.06.12
4. Nutraceuticals for Health and Growth by Dr. N. P. Sahu (Senior Scientist, CIFE) on 28.07.12
5. Improvised Teaching Methods by Dr. Geetanjali Deshmukhe, (Senior Scientist, CIFE); Dr. P.K. Pandey, (Senior Scientist, CIFE); Dr. Rupam Sharma, (Senior Scientist, CIFE) and Dr. Paromita Sawant (Senior Scientist, CIFE) on 23.08.12
6. *Dhruviya Jeevevam Jaiv - praudyogik Prayogki Sambhavna'* (Polar Organisms and Possible Biotechnological Applications) by Dr. S. P. Shukla (Senior Scientist, CIFE) on 15.09.12
7. Radiation Processing of Food by Dr. J. R. Bandekar (Head, RB&HSD, Bhabha Atomic Research Centre) on 06.10.12

Capacity building Programmes

- Dr. Geetanjali Deshmukhe, Dr. A. K. Jaiswar, Dr. P.K. Pandey, Dr. Rupam Sharma, Sr. Scientists and Dr. Paramita Benarjee, Scientist attended International workshop on Innovative Teaching for Improved Learning organized by USAID and Agricultural Innovation Partnership from 16 to 18 July 2012.
- Dr. A. K. Jaiswar visited ZSI, Kolkata for training in Taxonomy of Fishes during May 2012.
- Dr. S.N. Ojha, Principal Scientist attended training under Management Development Programme at IIM, Ahmedabad on 'Effective Communication Strategies: Men and Women at Work', during April 23-28, 2012.
- Dr. Rama Sharma, Sr. Scientist attended a UGC sponsored Sensitisation/Awareness/Motivation (SAM) workshop on "Capacity Building of Women Managers in Higher Education" from 17-21st April, 2012 at SNDT University, Mumbai.
- Dr. Rama Sharma, Sr. Scientist and Mr. Ram Singh, Technical Officer attended academic interaction and faculty exchange program with institutions like Indian Statistical Institute, Indian Institute of Management, Indian Space Research Organization, Indian Institute of Sciences and Institute for Social and Economic Change at Bangalore from 24th - 29th June, 2012.
- Dr. P. Ananthan, Scientist (S.S.) and Mr. D. Bhoomaiah, Technical Officer attended workshop on "Interactive Info design-Expo-CD 2012 " from 15-17 August 2012 at IITB, Mumbai

Students achievements

- Mr. Sivaraman, Ph.D student was selected for the summer school on 'Equity and Efficiency in Fisheries' from July 2-5, 2012 in University of Kiel, Kiel, Germany and for the Fullbright Nehru Doctoral and Professional Research Fellowship for the year 2012-13.
- Ms. Prathvi Rani, Ph.D student was awarded FAO bursary of \$ 2,744 USD for attending the Ph.D Intensive course on "The Economics of Fisheries Management" from 6th-17th August 2012, in Portsmouth Business School, CEMARE, University of Portsmouth, United Kingdom. This was a 40hours course.
- Mr. Tesfom Tesfom Melake Araya and Ms. Piyashi Deb Roy attended the International Institute of Fisheries Economics and Trade (IIFET) Conference held in Dar es Salaam Tanzania from 16-20 July, 2012. The Theme of the Conference was Visible Possibilities: The Economics of Sustainable Fisheries, Aquaculture and Seafood Trade They presented a poster on 'Performance, Potential and Prospects of Fisheries Sector in Eritrea' and 'Economic Valuation of Mangroves for Assessing the Livelihood of Fisherfolk - A Case Study in India'
- Mr. Pankaj Kumar H. Mugaonkar, Ph.D (Fish Business Management) scholar has been selected for the International advance course on, 'Research Applications in Seafood Marketing' Zaragoza, Spain which is being jointly organized by the International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM), through the Mediterranean Agronomic Institute of Zaragoza (IAMZ), and the Food and Agriculture Organization of the United Nations (FAO), through the Fisheries and Aquaculture Department



NEWS FROM CIFE, POWARKHEDA CENTRE

The centre at Powarkheda organized Short Term Training Programs for the officials of Bihar State Fisheries Department, Himachal Pradesh State Fisheries Department and other self financed students and farmers from Madhya Pradesh and Himachal Pradesh.

Sr. No.	Name of program	No. of participants	Duration	Sponsored
1	Magur hatchery management and seed production	08	4-13 th July, 2012	Self financed -students & farmers from M.P. and other state
2	Carp breeding and hatchery management	21	18-27 th July, 2012	Himachal Pradesh State Fisheries Dept. Others- Self financed- Students and farmer.
3	Freshwater prawn farming	14	22-28 th Aug, 2012	Self financed
4	<i>Matsya avam Jhinga palan</i> (Hindi)	20	29 th Aug to 07 Sept 2012	Bihar State Fisheries Department
5	Carp Culture Practices and Recent Advances	21	11-20 th Sept, 2012	Self financed- Local Participants of M.P.
6	<i>Matsya avam Jhinga palan</i> (Hindi)	19	24 th Sept - 3 rd Oct, 2012	Bihar State Fisheries Department

Training Programme for State Fisheries Officials of Government of Chhattisgarh



A training Programme, on “Magur Breeding and seed rearing” was organized for 12 state fisheries officials of Raipur, Chhattisgarh and one private fish farm of Maharashtra State from 3rd August to 10th August 2012. A total of thirteen (13) participants attended the programme. The venue of training programme was at CIFE centre Powerkheda . There were lectures on various aspects of cat fish breeding and hatchery management, nursery pond management and stocking of seed etc. A field trip was also organized at Narbada Landing Centre, fish market Hoshangabad, and Cat fish farm near “Sakelepur”

(M.P) under the guidance of coordinator Dr. C.S. Chaturvedi, Sr. Scientist, CIFE, Mumbai. During the programme a training manual was prepared and distributed to trainees. In this training programme 40 sets. of *C. batrachus* and 5 set of *H. fossilis* were bred successfully.

NEWS FROM CIFE, ROHTAK CENTRE

FISH FARMERS FESTIVAL

22nd September, 2012, CIFE, Rohtak Centre, Lahli, Rohtak, Haryana

Fish Farmers Festival was organized by CIFE in association with NFDB, Hyderabad; Haryana Kisan Ayog, Haryana; Department of Fisheries, Haryana at its Regional Centre, Lahli, Rohtak, Haryana on 22nd September, 2012. The Chief Guest Shri. Bupendar Singh Hooda, Hon'ble Chief Minister of Haryana and other dignitaries were taken around the farms and shown the activities of the farm. The Chief Guest and other dignitaries witnessed harvest of tiger shrimp *Penaeus monodon* and Pacific white shrimp *Litopenaeus vannamei* and viewed overall farm facilities of Lahli and Baniyani Units and the ongoing research activities at the centre. After the farm visit Hon'ble Chief Minister inaugurated exhibition arranged for the benefit of farmers. A large number of organizations namely CIFE, CIBA, CIFA, CIFRI, CSSRI, NDRI, NBAGR, MPEDA, NABARD, Haryana Kisan Ayog, Department of Fisheries, Haryana, Haryana Gramin Vikas Bank, Avanti Aqua Feeds Ltd; Geekay Hatcheries Pvt. Ltd; Balji Fisheries, Sanjay Lakra Fisheries, Sultan Singh Fisheries, etc participated in the exhibition.

Dr. W.S. Lakra, Director/Vice-Chancellor, CIFE welcomed Hon'ble Chief Minister of Haryana Shri. Bupender Singh Hooda, Chief Guest of the function, Padmabhusan Dr. R. S. Paroda, Chairman, Haryana Kisan Ayog, other dignitaries, Scientists, Officials and farmers from Haryana and Punjab. Dr. W.S. Lakra in his welcome address explained the ongoing activities and future programmes of CIFE, Rohtak Centre and its role in development of



salt affected land for aquaculture in the North Western states *i.e.*, Haryana, Punjab, Rajasthan and Uttar Pradesh. He also requested to extend the lease period of Rohtak Centre for 99 years from the existing 25 years for further development as a Centre of Excellence. Dr. R. S. Paroda appreciated the work being carried at CIFE, Rohtak Centre and said that state government should provide necessary help to CIFE as and when required. Dr. Paroda also stated that the culture of brackish water/ marine fish in land locked state is not less than a dream, but CIFE has made it true and paved a way to utilize the underground saline water for the fish/shrimp culture not only in Haryana but also in other such places. Hon'ble Chief Minister Shri. Bupinder Singh Hooda in his inaugural address appreciated the work done by CIFE, Rohtak Center and appealed to the farmers that doing fish and shrimp culture by using underground saline water is a torch light for the farmers of Haryana and even for the whole country and they can use the technique in their fallow lands. It would be a source of nutritional and livelihood security not only for those whose land has become saline but even others also can seek technical knowledge from this center. He agreed in principle to increase the lease

NEWS FROM CIFE, ROHTAK CENTRE

period of Rohtak Centre for 99 years and to provide all the assistance from the state side. He expressed his gratitude to the team of Scientists and other staff working at the center and to CIFE as a whole for extraordinary work in the field of fisheries and aquaculture. On this occasion Hon' ble Chief Minister felicitated 15 progressive farmers from Haryana, Punjab and Gujarat. Dr. Tarun Sridhar, I.A.S, Joint Secretary (Fy.), Ministry of Agriculture, Government of India in his speech gave an over view of fisheries and aquaculture development in India with special reference to Haryana. He also told about various centrally sponsored and NFDB schemes for the benefit of farmers and fishermen. He appreciated the work carried out at CIFE, Rohtak Centre. Dr. P.V. Singh, Director of Fisheries, Haryana in his speech explained the fisheries and aquaculture development of the state and various promotional schemes of state government. The dignitaries present on the occasion were Hon' ble Shri. Sadilal Batra, M.P., Rajya Sabha, Rohtak; Shri. Bharat Bhusan Batra, M.L.A., Rohtak; Smt. Shakuntala Katak, M.L.A., Kalounore; Shri. Anand Dangi, M.L.A, Mokra; Dr. A.K.



Srivastava, Director, NDRI, Karnal; Dr. D.K. Sharma, Director, CSSRI, Karnal; Dr. Yadav, Ex-Director, IVRI; Dr (Mrs.) Asha Dhawan, Dean, College of Fisheries, Guru Angad University of Veterinary and Animal Sciences University, Ludhiana, Scientists from CIFE, NDRI, CSSRI, CIBA, CIFA, CIFRI, NBAGR, Project Directorate for Farming Systems Research (PDFSR),Meerat, Officials from Department of Fisheries, Haryana and Punjab; Officials from NABARD, Haryana Gramin Vikas; and a large number of progressive farmers from Haryana, Punjab and Gujarat also attended the festival.



NEWS FROM CIFE, KOLKATA CENTRE

Visit of Shri Subrata Saha, Hon'ble Minister of State, Department of Fisheries, Aquaculture, Aquatic Resources and Fishing Harbours, Govt. of West Bengal to Kolkata Centre

On the occasion of Fish Farmers' Day on 10th July, 2012, a fish farmers' meet was organized at the Kolkata centre. Sri Subrata Saha, Hon'ble Minister of State, Department of Fisheries, Aquaculture, Aquatic Resources and Fishing Harbours, Govt. of West Bengal was the Chief Guest. Other distinguished guests included Prof. Dr. N.C. Datta, Former Professor and Head, Univ. of Calcutta and Shri B. C. Saha, IAS, Director, Department of Fisheries, Govt. of West Bengal. Dr. W.S.Lakra presided over the function. Hon'ble Minister of state, Sri Subrata Saha informed the farmers that state government is taking steps to develop six model aqua-farm from six districts of W.B. to increase the production of Indian Major Carps along with threatened and nutritious small indigenous fishes like Punti, Mola, Kholse etc. On this occasion, five publications of CIFE, Kolkata Centre in the form of leaflets were released by Sri Subrata Saha, Hon'ble Minister of State. Leaflets were on the following topics (i) 10th July: Special Fish Farmers' Day (ii) Seed Production of Magur: *Clarias magur* (iii) Management of Aquatic Weeds (iv) Applications of Artemia Naupli for feeding fish (v) Feed for enhancement of colour of ornamental fish. About 80 fish farmers including women fishers from different part of the state attended the meet. On this occasion fish farmers presented their success stories to motivate other fellow farmers. Farmers and professionals participated in lively discussion after each presentation. Two fish farmers, two societies and one TV channel of the state were felicitated on this occasion for their commendable contribution in the field of fisheries/aquaculture. Mr. Kashinath Barman was conferred with the best fish farmer award in recognition of his contribution in the field of fisheries and aquaculture as a successful commercial fish farmer and the fisheries development in the region of Purba, Medinipur district of W.B. Mr. Suprabhat Dutta was conferred upon best fish farmer award in recognition of his contribution to fish culture especially promotion of breeding and culture of indigenous ornamental fish in the district of South 24-Pargans of W.B. Best Fisheries Cooperative Society Award 2012 was given to "Sindarni Fishermen's Cooperative Society Limited" for its outstanding contribution in the promotion of Beel fisheries and livelihood support to fishers in general and the fisheries development in particular of North 24-Pargans district of W.B. Best Women Fisheries Cooperative Society Award 2012 was conferred to "Ratnadwip Rangin Matsya Chash Mahila Samabay Samity Ltd." for their outstanding contribution in the promotion of ornamental fish breeding and culture among the rural women for their livelihood support in general and the fisheries development in Howrah District of W.B. "Special Team Award 2012" to "Annadata, E-TV Bangla" for their outstanding contribution for mass awareness and dissemination of aquaculture and fisheries technologies through Annadata Bangla programme of E-TV.



NEWS FROM CIFE, KOLKATA CENTRE

Regional Workshop on “Expert Consultation on Academic Partnership for Excellence and Networks in Fisheries Education and Research”



An expert consultation on academic partnership for excellence and networks in fisheries education research was organised at the Kolkata Centre on 23rd April 2012 at Science City auditorium, Kolkata. The meeting started with a formal welcome address by Dr. B. K. Mahapatra Officer In-Charge, CIFE, Kolkata Centre and it was inaugurated by Prof. C. S. Chakrabarti, Vice-Chancellor, WB University of Animal & Fishery Sciences, President, IAU. Dr. W. S. Lakra, Director/Vice-Chancellor, CIFE, Mumbai welcomed the participants from the eastern region. He expressed his desire to develop linkages with different agencies and universities, while acknowledging the contribution of zoology departments, different labs of central agencies in the region. The purpose of forging such kind of linkages is to bring excellence in fisheries science. Quality education, quality human resource in fisheries, exchange programmes and sharing of farm facilities, lab equipments, expertise and development of succeeding lines after superannuation of experts are some of the key areas which were discussed. In view of the next plan period which was declared as decade of biodiversity, the institute aims to address

national agenda, develop strategies, new courses, innovation in teaching methods and collaborative research. He urged all the participants to aim for development of world class institutions with global ratings.

Prof. C. S. Chakrabarti, V.C., WBUA&FS in his address emphasized the need to develop linkages among different institutions especially agricultural universities to put to use the resources for development of the sector. He mentioned that for growing of fish we need water bodies. But most of the water bodies are polluted and declining due to Climate change and other factors. Under these circumstances, whenever a curriculum is devised for fishery students we should keep these issues in mind. He urged that research component of an Institution should not be based on mandate rather it should be an open system.

Dr. C. S. Purushothaman, Dean, Academics, CIFE, Mumbai described about the genesis of such programmes in view of limited interactions, diversified efforts and the need to bridge the gap of divergence. The main purpose is to bring

NEWS FROM CIFE, KOLKATA CENTRE

the traditional universities and agricultural Universities under one umbrella for the development of fisheries education. He emphasized that some areas of fisheries need urgent attention and one of the purpose of the meeting is to search leaders who can take the responsibilities in specific areas.

Prof. Amallesh Choudhary, Dr. B. N. Pandey, Dr. U. C. Goswami lauded Dr. Lakra for his good initiative. Prof. Choudhary stressed upon the need to collaborate between maritime states with reference to coastal aquaculture, fish and shell fish fauna, development of climate resilient aquaculture in face of climate change.

Dr. W. S. Lakra, Director/Vice-Chancellor, CIFE, Mumbai mooted the idea to conduct writeshops and publish good laboratory manuals for fisheries students and carry out high quality research work. The discussions were held on topics of future of traditional knowledge, food

security, fish medicine by tribal, ICT usage and quality teaching. The participants also expressed the need to have Dean's committee to streamline the nomenclature of departments in fisheries colleges and publish a journal on fisheries/agriculture education. Dr. A. K. Roy, former professor, College of Fisheries, Agartala stressed the need to evolve the Biology of 21st century by incorporating bioinformatics in syllabus. There is also the need to draw up a list of teachers with special expertise like plankton identification. Prof. Viswanath mentioned about the importance of fish physiology studies with emphasis on energetics and nutrition in view of climate change. At the end, Dr. W.S. Lakra, Director, Vice Chancellor, CIFE thanked everybody for contributing to the meeting and invited the participants to come out with plans, proposals for quality enhancement fisheries research and education in India.

Field Exposure Programme for students and fish farmers:

Apart from the STP training programmes, five exposure training programme for fish farmers and students from West Bengal, Bihar, Tripura, Uttarakhand, A.P., Tamilnadu and Maharashtra were organized by the Centre during April to Sept, 2012 in which 79 participants were trained.

Exhibitions

A total of three exhibitions were organized by CIFE, Kolkata Centre during the reporting period.

1. Jharkhand Matsya Mahotsav, 2012 from 28-29th Sept, 2012 at Vidhan Sabha Ground, Dharwa, HEC, Ranchi.
2. 16th National Exhibition from 7-11th September, 2012 at Nazrul Maidan, Narayantala West, V.I.P. Road, Baguihati, Kolkata 700059, organised by Central Calcutta Science & Culture Organization for Youth.
3. 2nd India Crop Summit - 2012 during 17-18th September, 2012 at Netaji Indoor Stadium, Kolkata organized by Indian Chambers of Commerce, Kolkata in collaboration with Govt. of W.B. and ICAR, New Delhi.

NEWS FROM CIFE, KOLKATA CENTRE

Professional Development Programme

Three PPD (Professional Development Programme) Modules were completed during the tenure in which 17 state fisheries officers and self-sponsored candidates participated.

S. No.	Name of the Course	Duration	No. of students passed
1.	Module III: Fish Processing, Quality Assurance and Marketing	4 months (Feb to May, 2012)	4 Self-sponsored trainees from Bihar (3) and West Bengal (1)
2.	Module II: Aquaculture	4 months (June - Sept 2012)	11 out of which 8 officers from State Fisheries Department of Meghalaya (5), M.P. (1), J& K (1), Nagaland (1) and 3 self sponsored trainees from Bihar
3.	Module-IV (Development Planning and Management in Fisheries)	Feb-May, 2012	2 Officers from of M.P. (1) State Fisheries Department and J& K (1)
Total			17

Some of Kolkata Centre Activities

