

# **Animal Husbandry, Dairying and Fisheries Department**

## **Demand No.7**

### **POLICY NOTE 2007-2008**

### **FISHERIES DEPARTMENT**

#### **INTRODUCTION**

Fishing is an important occupation next to agriculture and is regarded as a powerful income and employment generator. It also stimulates the growth of many subsidiary industries apart from providing protein rich food to the public.

India has a long coastline of 8118 kms and is blessed with rich fishery resources in its Exclusive Economic Zone (EEZ) which covers 2.02 million sq. kms. Tamil Nadu is one of the important coastal states in the East coast, having a coastline of 1076 kms., 13 Coastal Districts and 591 fishing villages. It ranks fourth in fish production in the country. It has a continental shelf of 41,412 sq. kms. and an EEZ spread over 0.19 million sq. kms.

Marine sector dominates the entire fishery sector and the Tamil Nadu coast line is divided into four zones.

1. The surf-beaten Coromandal coast extending to 357.2 kms from Pulicat to Point Calimere.
2. The Palk Bay extending to 293.9 kms from Point Calimere to Dhanushkodi.
3. The Gulf of Mannar rich in biodiversity and hosting a variety of marine species is a Marine National park extending 364.9 Kms from Dhanushkodi to Kanniyakumari.
4. The western sector with 60 kms of coast line on the Arabian sea from Kanniyakumari to Neerodi.

The vast fishery resources have not yet been fully exploited. As regards marine fishery sector, the fishery resources in the inshore areas have been over exploited, whereas the offshore resources and deep sea resources are yet to be tapped to the optimum level.

One of the main objectives of the department is to enhance fish production in the state by formulating policies to utilize the off-shore resources and increase the standard of living of the fishermen, as they remain as one of the socio-economically weaker sections of the society.

All the schemes implemented by the fisheries department are with a foresight to develop and conserve the fishery resources and ameliorate the socio-economic conditions of the fishermen in the state.

#### **Objectives of the Department:-**

The major objectives are as follows:-

1. To encourage fisherfolk to exploit the under-utilized fishery resources and to reduce fishing pressure in the inshore areas.
2. To augment aquatic resource production in the inshore areas by conservation measures, stock enhancement, establishing artificial reefs etc.
3. To promote sustainable, eco-friendly aquaculture practices.

4. To strengthen the infrastructure facility for fish landing and marketing as per Hazard Analysis and Critical Control Point (HACCP) and European Union (EU) norms.
5. To uplift the socio-economic conditions of the fisherfolk through welfare measures and by generating employment opportunities for them.
6. To modify the present fisheries legislation suiting the requirements of the fisherfolk
7. Impetus to ornamental fish culture and deep sea fishing including tuna.

### **Administrative Set up**

The Director of Fisheries is the Head of the Department and he is also the Managing Director of Tamil Nadu Fisheries Development Corporation Limited, an undertaking of the Tamil Nadu Government. He is also the Functional Registrar of Tamil Nadu State Apex Fisheries Cooperative Federation. There are six regions headed by three Joint Directors of Fisheries and three Deputy Directors of Fisheries who monitor and supervise the activities of Assistant Directors of Fisheries and implement various fishery development schemes including fishermen welfare schemes.

The ban on recruitment in the past years led to many vacancies and the Department faced much hardship in implementing the welfare schemes and developmental activities. During the year 2006-07, the Government have lifted the ban and permitted the department to fill up the vacancies as detailed below.

<b>Sl. No.</b>	<b>Name of the Post</b>	<b>Number of posts to be filled up</b>
1.	Joint Director of Fisheries	1
2.	Deputy Director of Fisheries	5
3.	Assistant Director of Fisheries	13
4.	Personal Assistant	5
5.	Inspector of Fisheries	52
6.	Research Assistant	9
7.	Sub Inspector of Fisheries	43
8.	Marine Foreman	8
9.	Junior Assistant	22
10.	Typist	24
11.	Stenographer	5
12.	Driver	15
13.	Office Assistant	5

The Directorate of Fisheries is taking all steps to fill up these approved vacancies at the earliest possible time.

### **XI Five Year Plan—A focus on Fisheries Development**

It is proposed to implement the following Schemes in the XI Five Year Plan:

- Develop fisheries resource and potential including alternate livelihood programme to improve the economic well being of the fishermen.
- Modernize and equip all Fishing Harbours and Fish Landing Centres in accordance with the guidelines of Export Inspection Council, Government of India, to satisfy Hazard Analysis and Critical Control Point (HACCP) norms to avail opportunities under the World Trade Organisation (WTO) regime.
- Empower fish producers to compete both in domestic and international markets.

- Facilitate organized market network and modernize domestic fish markets including cold chain facility.
- Conservation of fishery resources, enhancement of resources, reduce over-capitalized fishing efforts.
- Modify policies to achieve conservation and diversification efforts.
- Encourage alternate livelihood support programmes through skill upgradation and professional training to fisherfolk.
- Identify vulnerable areas and prepare a comprehensive plan for disaster preparedness and mitigation.
- Develop aquarium and oceanarium for the promotion of fisheries tourism.

### **Centenary Celebration of Fisheries Department**

The Department of Fisheries was established in the year 1907 and is completing 100 years in 2007. The Government have sanctioned Rs. 25.00 lakh to the Department to celebrate its Centenary year. State wide celebration would include conduct of Seminars, Aqua Shows, Food Festivals, Quiz and Painting Competition for Children, medical campaigns and sports meet to commemorate the Centenary celebration.

### **1. Tsunami Rehabilitation and Reconstruction Programme**

Tsunami which struck Tamil Nadu on 26.12.2004, devastated and caused damages to the fishing implements as detailed below.

1.	Catamarans of all types	35,530 Nos.
2.	Vallams of all types	11,118 Nos.
3.	Mechanised fishing boats	4,430 Nos.
4.	Nets	2,200.07 MT.

The Government sanctioned various packages for providing relief assistance to the fishermen who suffered damages to their fishing crafts and gears. The Government issued detailed guidelines for assessment of the damages caused to the fishermen and distribution of the assistance. As per the guidelines, teams consisting of Revenue and Fisheries Department officials, headed by a Deputy Collector level officer, were formed to assess the damages. 10% of the assessed cases were super-checked by an officer in the cadre of District Revenue Officer. As on date, the progress of relief assistance provided to the fishermen whose fishing crafts and gears suffered damages is furnished below:-

**DETAILS OF ASSESSMENT OF DAMAGES TO FISHING IMPLEMENTS DUE TO TSUNAMI ON 26.12.2004 AND DISBURSEMENT OF RELIEF ASSISTANCE MADE UPTO 31.3.2007.**

Sl. No	Categories of damaged fishing implements	Details of assessment			Details of fishing implements for which relief assistance disbursed			Total amount disbursed (Rs. In Crore)	Asset creation (in Nos.)
		Partly	Fully	Total	Partly	Fully	Total		
1	Catamarans of all types	4147	31383	35530	13697	16576	30373	54.102	19771
2	Vallams of all types	2978	8140	11118	3896	732	4628	8.982	4092
3	Mechanised Boats	1775	2655	4430	2353	374	2727	49.460	2150
	<b>Total</b>	<b>8900</b>	<b>42178</b>	<b>51078</b>	<b>19946</b>	<b>17682</b>	<b>37728</b>	<b>112.544</b>	<b>..</b>
4	Nets (M.T.)	2200.07	..	..	..	..	39316	37.279	39316
5	Engines	1560	..	..	3030	..	3030	1.515	3030
	Grand Total	..	..	..	..	..	..	151.338	..

**1.1. Issue of additional relief assistance to Tsunami affected fishermen**

The Hon'ble Chief Minister of Tamil Nadu in the review meeting held on 24.6.2006 on Tsunami Relief and Rehabilitation has announced a grant of additional relief assistance to the 42,000 Tsunami affected fishermen. For this purpose, the Government have sanctioned Rs. 110.36 crore under the Rajiv Gandhi Rehabilitation Programme. Nets, Life Jackets, insulated Ice boxes, Handy rechargeable lanterns and Heavy Duty bicycles will be issued under this Scheme. The tenders have been finalised and orders issued for the purchase of Life Jackets, Handy Rechargeable lantern and Heavy Duty bicycles. The purchase order for the supply of nets (webbings), insulated ice boxes will be issued shortly. All the materials will be distributed to the fishermen by September 2007.

**1.2. Relief assistance sanctioned from the Prime Minister National Relief Fund**

**(a) Sports equipments**

A sum of Rs. 59.10 lakh was released from the Prime Minister National Relief Fund for the supply of Sports materials to the 591 fishing villages of the 13 coastal districts in Tamil Nadu. Cricket kits, Volley ball, Foot ball, Knee Caps for Kabbadi, Carrom and Chess boards will be supplied to these villages under this scheme. All the materials will be supplied before June 2007 to all the 591 villages.

**(b) Waiver of loan obtained by Fishermen through TAFCOFED**

TAFCOFED under the Integrated Marine Fisheries Development Project Phase I & II, has obtained loans from National Co-operative Development Corporation and issued loans to fishermen through the Fishermen Co-operative Societies. The pending outstanding loans as on 31.7.2005 has been assessed as Rs.19.56 crore which includes the Principal, Interest, Penal Interest and Share Capital. In order to alleviate the sufferings of the Tsunami affected fishermen, the Government in G.O.Ms.No. 10, Animal Husbandry, Dairying and Fisheries Department, dated 25.1.2007 have issued orders for the waiver of loan amount of Rs. 19.56 crore by obtaining funds from the Prime Minister National Relief Fund. 5635 fishermen have been benefitted, by this waiver of loan.

### **(c) Supply of First Aid Boxes**

The Government of Tamil Nadu have sanctioned Rs. 9.40 crore under the Prime Minister National Relief Fund for the purchase and distribution of 47,000 First Aid Boxes at the cost of Rs. 2,000/- each, to marine fishermen. The First Aid Boxes will be supplied to the fishermen before June 2007.

### **1.3. Chennai Fishing Harbour**

In order to modernize the Chennai Fishing Harbour, an additional amount of Rs. 19.569 crore has been sanctioned for rehabilitation of trawler wharf, extension of break water, construction of additional trawler wharf and finger jetties. The works are planned to be completed by 2008-09 financial year.

### **1.4. Restoration of Fishing Harbours and Fish Landing Centres under the Member of Parliament Local Area Development Scheme (MPLADS)**

In order to restore and reconstruct Tsunami affected Fishing Harbour's and Fish Landing Centres in Kanniyakumari and Cuddalore Districts, an amount of Rs. 4.53 crore has been allocated under MPLAD scheme. The details of sanctioned works under this scheme are furnished below :-

#### **(i) Chinnamuttom Fishing Harbour in Kanniyakumari District**

Restoration works like dredging, water supply arrangements, construction of new auction hall, net mending shed-cum-rest room and upgrading the generator room at an estimated cost of Rs. 120 lakh are undertaken. The works are under progress and will be completed by June 2007.

#### **(ii) Creation of infrastructure facilities in Kovalam at Kanniyakumari District**

The infrastructure facilities like fish drying platform and cold storage facilities are to be established at Kovalam to improve the preservation process at an estimated cost of Rs. 50 lakh. The civil works are under progress and on completion of the same, action will be taken to procure cold storage machinery. The cold storage facility would be made operational by June 2007.

#### **(iii) Construction of Boat jetty facilities at Arockiyapuram in Kanniyakumari District**

The works are undertaken at an estimated cost of Rs. 40 lakh. The construction work is in progress and will be completed by June 2007.

#### **(iv) Construction of fish landing centre at Enayamputhenthurai in Kanniyakumari District**

The infrastructure facilities are undertaken at an estimated cost of Rs. 150 lakh. The construction of diaphragm wall and groyne needs detailed model studies to suit the site conditions and to assess its stability. Action is being taken to conduct preliminary investigation studies like soil test, bore-hole exploration, model studies

etc. On completion of the studies, action will be taken up for execution. This work will be completed by September 2007.

The works related to shore based facilities like auction hall, net mending shed, toilet block, approach road, overhead tank, cold storage room and protection wall are under progress and will be completed before June 2007.

**(v) Construction of Fisheries Training and informatics Centre at Parangipettai in Cuddalore District**

The facilities are being created at an estimated cost of Rs. 92.50 lakh in respect of construction of Training Centre and Hostel building. The work is carried out by PWD at an estimated cost of Rs.63 lakh. Procurement of laboratory equipments and other facilities required for Informatics centre will be carried out by Fisheries Department at an estimated cost of Rs. 29.50 lakh. The works are under progress and will be completed by June 2007.

**1.5. Restoration works in Tsunami affected fishing harbours / fish landing centres sanctioned under National Calamity Contingency Fund (N.C.C.F.)**

An amount of Rs. 11.49 crore was sanctioned for the restoration of damages in 5 Fishing harbours at Chennai, Cuddalore, Pazhayar, Thoothukudi and Chinnamuttom and 7 Fish Landing Centres at Mudasalodai, Nagapattinam, Arcottuthurai, Kottaipattinam, Thondi, Punnakayal and Mallipattinam.

Except the works at Chennai and Pazhayar, the restoration works have been completed in the remaining places. The works at Chennai and Pazhayar Fishing Harbour will be completed soon.

**1.6. Construction of 10 Fish Landing Centres under Tsunami Rehabilitation Programme**

Under Tsunami Rehabilitation Programme, Planning Commission, Government of India have provided an amount of Rs. 50 crore for construction of 10 new Fish Landing Centres in Tamil Nadu at an unit cost of Rs. 5 crore. It is proposed to construct the ten Fish Landing Centres at Threspuram, Periyathalai in Thoothukudi District, Keelakarai in Ramnathapuram District, Ovari in Tirunelveli District, Ekkiyarkuppam in Villupuram District, Annamalaicheri, Ennore-Mugathuvarakuppam and Periyamangodu in Thiruvallur District, Samiyarpettai in Cuddalore District and Kadalore Periakuppam in Kanchipuram District. In this regard, the Department has taken action to select the Consultancy for required studies and preparation of Detailed Project Report. After completion of the study, it is planned to complete execution of works in a period of 18 months.

**1.7. World Bank aided Emergency Tsunami Reconstruction Project (ETRP)**

An amount of Rs. 80.60 crore has been allotted under World Bank aided ETRP

- 1) to improve the existing Fishing Harbours to European Union Standard norms at Chinnamuttom, Pazhayar Mallipattinam and Nagapattinam,
- 2) to provide solution for permanent opening of bar mouths at Pulicat, Portonovo-Annankoil, Punnakayal and Thirumullaivasal
- 3) for construction of two new Fish Landing Centres at Annankoil and Nagoor.
- 4) for provision of seamless communication facilities to the fishermen in their fishing boats as a measure of sea safety
- 5) for assistance to shrimp farms and hatcheries

Regarding modernisation of four fishing harbours, two fish landing centres and permanent opening of four bar mouths, the Consultancy for preparing detailed project reports would be finalised and the works would be completed within 18 months of finalisation of the Detailed Project Report.

Financial relief assistance to a tune of Rs. 60 lakh was released to the owners of shrimp farms and hatcheries which were damaged due to Tsunami.

As a Tsunami rehabilitation effort and for future disasters mitigation, from the World Bank funding, seamless communication would be established throughout the Tamil Nadu Coast benefitting the mechanised boats and traditional crafts. This would help the fishermen in a big way during natural disaster and accidents happening in the open sea. They would also be closely informed about fish yield in a particular area.

Detailed Project Report is being prepared in consultation with ELCOT to develop the seamless communication network for the 13 coastal districts.

#### **1.8. Asian Development Bank assisted Tsunami Emergency Assistance Project (TEAP)**

##### **a) Repair and Rehabilitation Work:**

Asian Development Bank has sanctioned a sum of Rs. 74.30 lakh for carrying out repair and rehabilitation works at Cuddalore Fishing Harbour and the Fish Landing Centres at Mudasalodai, Sethubavachatram, Kottaipattinam, Jagathapattinam and Punnakayal. The work at Punnakayal, Mudasalodai, Jegathapattinam have been completed. With respect to the other locations, works in 3 places are in progress and will be completed before June 2007.

##### **b) Conducting Feasibility study for development of comprehensive design for Fishing Harbours at Cuddalore, Chennai Napier Bridge and Adayar creek**

The Government have sanctioned a sum of Rs. 25 lakh for fixing consultancy services for taking up feasibility study for development of a comprehensive design for Cuddalore Fishing Harbour and Fish Landing facilities at Chennai Napier Bridge and Adayar Creek in Tamil Nadu under Asian Development Bank assisted Tsunami Emergency Assistance Project (TEAP). Tenders have been received for selecting the consultancy which is under evaluation. After getting approval from the Asian Development Bank the consultancy work will be carried out.

##### **c) Dredging works in the basin of Fishing Harbour / Fish Landing Centres**

Action is being taken to dredge the Fishing Harbours at Chinnamuttom, Pazhayar, Mallipattinam and Fish Landing Centres at Mudasalodai, Sethubavachatram, Kottaipattinam, Jegathapattinam and Punnakayal at an estimated cost of Rs. 7.26 crore. Anna University, Chennai has been requested to carry out Initial Environmental Examination (IEE) and

Environmental Management Plan (EMP) studies. After completion of studies and obtaining approval from Asian Development Bank (ADB), dredging works will be carried out.

## **2. INFRASTRUCTURE FACILITIES**

### **2.1. Sethusamudram Ship Channel Project – Coastal Community Development Programme – Construction of Fishing Harbour and Fish Landing Centres**

As a part of Sethusamudram Ship Channel Project, it has been decided to extend financial assistance to the tune of Rs. 60 crore for developing Fishing Harbours / Fish Landing Centres in the fishing villages which fall in the project area, namely, Muthupet, Sethubavachatram, Thondi, Rameswaram and Mokkaiyur, for the direct benefit of the local fishermen.

The Sethusamudram Corporation Limited has taken action to select the consultancy for studies and preparation of a detailed Project Report. Based on the feasibility, the work will be taken up for execution.

## **2.2. Rameswaram Fishing Harbour**

As a part of Sethusamudram Ship Channel Project, it has been decided to extend financial assistance for developing a Multi-purpose harbour at a tentative estimated cost of Rs. 100 crore, with provision for handling of fishing vessels, cargo vessels, berthing and repair facilities for the vessels of the Sethusamudram Corporation Limited. The Sethusamudram Corporation Limited, Chennai has invited tenders for selection of consultants for study and preparation of a detailed Project Report.

## **2.3. Construction of 10 Fish Landing Centres under Centrally Shared Scheme**

The Government of India, Ministry of Agriculture, Department of Animal Husbandry, Dairying and Fisheries, New Delhi have accorded Administrative Sanction for construction of 10 Fish Landing Centres in Tamil Nadu at a total cost of Rs. 1312.88 lakh as Centrally Shared Scheme.

The works in the 8 places have been completed. Out of balance 2 works, one work will be completed by May 2007 except Veerapandiappattinam.

## **2.4. Construction of Fishing Harbours in Tamil Nadu under Centrally Shared Scheme**

### **(i) Thengapattinam Fishing Harbour**

The Government of Tamil Nadu have accorded administrative sanction for construction of a fishing harbour at an estimated cost of Rs. 30.55 crore as Centrally Shared Scheme. The Ministry of Environment and Forest, Government of India have issued environmental clearance for this project.

An amount of Rs. 72.75 lakh was released to the District Collector, Kanniyakumari towards payment of compensation for the acquisition of private lands required for the project. Since some of the land owners have refused to give their consent to acquire their lands under private negotiation, the Government have issued orders to acquire lands under urgency clause invoking section 17(2) of the Land Acquisition Act 1894. Government of India, Ministry of Agriculture will issue administrative sanction for the project on completion of the land acquisition process. The construction work will commence on receipt of Government of India's administrative sanction.

### **(ii) Colachel Fishing Harbour**

The Government of Tamil Nadu have accorded administrative sanction for construction of a Fishing Harbour at an estimated cost of Rs. 23.50 crore as Centrally Shared Scheme.

State level Coastal Zone Management Authority has issued environmental clearance for this project. Action is being taken to obtain environmental clearance from Ministry of Forest and Environment, Government of India. Tamil Nadu Maritime Board has provided 'in-principle' approval to transfer the land on lease basis. Administrative sanction and release of funds from Government of India will be obtained. The work will commence shortly.

### **(iii) Poompohar Fishing Harbour**

Detailed project report at an estimated cost of Rs. 40 crore was prepared in consultation with the Central Institute of Coastal Engineering for Fishery (CICEF), Bangalore. National Institute of Ocean Technology, Chennai has submitted a draft model study report,

EIA and EMP for this Project. Based on this report, action will be taken to obtain Environment Clearance.

## **2.5. Construction of Fishing Harbours at Muttom and Rajakkamangalamthurai in Kanniyakumari District on BOOT (Build, Own Operate and Transfer) basis.**

The Government of Tamil Nadu have accorded permission for the construction of Fishing Harbours at Muttom and Rajakkamangalamthurai in Kanniyakumari District on BOOT basis. Tenders were received for selection of developer-cum-operator for both the Fishing Harbours and the draft Request for Proposal document, inclusive of the draft concession agreement is under consideration of the Government.

## **2.6. Assistance from ASIDE for Developing Infrastructure Facilities in the Fishing Harbours**

The ASIDE (Assistance to States for Developing Export and other Allied Activities) Committee functioning under the control of Tamil Nadu Industrial Development Corporation Limited has sanctioned a sum of Rs.1242 lakh for carrying out the following works.

- a) Upgradation of Fishing harbour at Chennai for Rs. 638 lakhs
- b) Upgradation of Fishing harbour at Thoothukudi for Rs. 504 lakhs
- c) Establishing cold chain facilities in 4 Districts for Rs. 100 lakhs

In respect of Chennai Fishing Harbour, out of the 12 sanctioned works, 4 have been completed and the rest are in various stages of completion. As regards Thoothukudi Fishing Harbour, Phase-I dredging work has been completed by Thoothukudi Port Trust and Phase II dredging work is being carried out by Thoothukudi Port Trust. In respect of civil works, out of the 11 sanctioned works, 4 works have been completed and remaining 7 works will be completed by June 2007.

Cold chain facilities are being established in Thoothukudi, Pudukkottai, Ramanathapuram and Kanniyakumari Districts at an estimated cost of Rs. 25 lakh. The works would be implemented through TAFCOFED for which a sum of Rs. 90 lakh was released by TIDCO. Similar cold chain facilities are also proposed to be established in Chennai and Nagapattinam districts.

## **3. NEW SCHEMES 2007-08**

### **3.1. TAMIL NADU FISHERMEN WELFARE BOARD**

A new scheme for establishing a separate Welfare Board for the welfare of fishermen, on the same lines as the Welfare Board for Agricultural Labourers was announced in the Tamil Nadu Legislative Assembly on 20.1.2007 by His Excellency the Governor of Tamil Nadu. In the Budget Speech on 23.3.2007 the Hon'ble Minister for Finance announced that all benefits given under the landless agricultural labourers and farmers (social security and welfare schemes) will be extended to the fishermen also. Women who are engaged in activities like drying and sale of fish will also be covered under the above scheme. A separate bill for the same will be introduced during this session of the Legislative Assembly. A sum of Rs.5 crore has been provided for this purpose.

### **3.2. Installation of Artificial Reefs in two places in the inshore area**

The fishery resources in the inshore area's have been over exploited due to increase in the number of fishing crafts and increased fishing effort (CPUE) particularly after Tsunami. The fast depleting fish stocks in the inshore waters has severely affected the income of the traditional fishermen. To replenish the fish stock in inshore waters, it has been proposed to install two artificial reefs in the inshore areas of the State.

Artificial reef is an underwater habitat for marine life and is helpful in increasing the productivity of the eco-system. Artificial reefs are man-made structures deployed in the sea to increase the hard-bottom habitat available to the marine organisms.

The reefs

- provide habitat or shelter for fish and other marine organisms
- act as feeding, breeding and nursery areas
- deterrent to bottom trawling

Already 14 artificial reefs have been installed in the inshore areas (1 in Kancheepuram District, 1 in Cuddalore District, 2 each in Ramanathapuram, Pudukottai, Nagapattinam, Thanjavur Districts (totally 8) and 4 in Thoothukudi District)

Two more Artificial reefs will be installed in suitable locations of the inshore areas of Kanniyakumari and Thanjavur Districts.

### **3.3. Improvement of Fisheries Department Library**

There are 3000 valuable books on Fisheries, 109 Journals, 32 Magazines in English, 10 in Tamil and 29 Department Publications available in the Library.

Very important scientific journals such as Freshwater Limnology, Current Science, Freshwater Forum, Memories of the Queens land Museum, Zoo Systema, Zoological studies and popular journals such as Seafood Export Journal, MPEDA Newsletter, CMFRI, CIFRI, CIBA Newsletters, Infofish, Fishing Chimes have been received and maintained in the Library for many years.

Apart from these, the publications of FAO, UNDP, BOBP, and N.A.C.A are also received by this Library regularly.

Every year, there are about 1000 persons including students, farmers, Scientists, Research Scholars from Tamil Nadu as well as from other states of India visiting and utilising the services of this library. This Library is a source of information to almost all the Central Fisheries Institutes.

The Government of Tamil Nadu have sanctioned Rs.8 lakh during 2007-08, towards improvement of this Library.

### **3.4. Subsidized Fishing Input Assistance to Inland Fishermen**

In Tamil Nadu, there are 53 reservoirs under the control of Fisheries Department. These reservoirs are stocked with quality fingerlings and the fishery wealth is exploited by way of licensing system or share fishing by local fishermen or by lease.

The share fishing method is done by local fisherfolk. The Inland Fishermen Cooperative Society members are engaged in share fishing in select reservoirs and the catch is shared by the fishermen and department. There is a need to provide subsidy assistance for purchase of FRP coracles and fishing nets for increasing their fishing efficiency.

One FRP coracle and 10 kg of nylon fishing nets will be provided to share unit (one share unit each consist of 2 to 3 fishermen). Subsidy assistance (50%) at an outlay of Rs.10 lakh will be provided for purchase of 200 Nos. of FRP coracles and 2000 kg of fishing nets to 200 share units.

### **3.5. Special repairs to nurseries and water supply arrangements at Aliyar Fish Farm.**

Aliyar reservoir with a water spread area of 642 ha. is situated in Coimbatore District. The fishing rights of the reservoir along with the seed production and rearing facilities of fish farm were transferred to TNFDC Ltd. Induced carp spawning, seed rearing using the nurseries, rearing of fingerlings and breeder maintenance are some of the activities undertaken in Aliyar fish farm. The total fish seed rearing space available in Aliyar complex is 20,175 sq. mts., out of which 1680 sq. mts. nursery area will be repaired at an estimated cost of Rs. 18.80 lakh. By carrying out these repairs 8.40 lakh fingerlings can be produced additionally.

### **3.6. Upgradation of existing fish seed farms.**

At present, there are 8 fish seed production centres and 27 fish seed rearing centres functioning under the control of the Fisheries Department. The seed production centres have a capacity to produce 3025 lakh early fry. The actual total space available for rearing of fish seeds is 16 ha., out of which 8.5 ha. are under major repair. The nursery infrastructure includes water intake system, nursery tanks, breeder ponds, spawning pools and water drainage system. If the unserviceable rearing space is repaired, about 375 lakh fingerlings can be produced additionally. During the year 2007-08, about 3000 Sq mts. nursery rearing space will be repaired at an estimated cost of Rs. 30 lakh.

### **3.7. Development of larvicidal fish stock for control and eradication of mosquitoes**

Shallow, weed infested derelict ponds, swamps and marshes, temple tanks, community ponds and puddles are the ideal breeding grounds for mosquitoes. Though there are several pesticides, chemicals such as DDT available for control of insects, their detrimental effects on human system are well known. Biological control is now recognized as a potent tool for controlling the spread of mosquito menace, without any harmful effect.

Several "larvicidal fishes" are effective in eating the larvae of mosquitoes thereby preventing its proliferation. The mosquitoes propagate by laying eggs in waters. Introduction of such low cost larvicidal fishes will eradicate the larval population of mosquitoes. Some of the important larvicidal fish species are Gambusia affinis and Labistes reticulatus.

The larvicidal fish species will be collected from natural sources and stocked in the nurseries for further rearing. For the effective control of the mosquito problem, it is proposed to stock larvicidal fishes in the mosquito infested waters. The stock of Gambusia will be maintained in departmental nurseries available at Chetput, Asur, Kulithalai and Mettur Dam

and will be supplied to local bodies. The scheme will be implemented at a total cost of Rs. 5 lakh during 2007-08.

#### **4. MARINE FISHERIES**

##### **4.1. CONSERVATION AND MANAGEMENT OF FISHERY RESOURCES:**

Fisheries Statistics reveal that the existing fishery resources in the inshore area have been over exploited, due to increase in the number of fishing crafts. Motorization of country crafts has also added to the fishing pressure in the inshore areas. The trawlers/mechanised fishing boats while conducting fin fish and shrimp fishing, in the sea by using varied type of gears with different mesh sizes, bring large quantity of by-catches comprising of small sized fishes/juvenile fishes and economically unimportant species. This affects the food cycle resulting in depletion of the commercial fish stock in the sea and poses a great danger to the eco-system.

The Government have therefore taken the following steps to conserve fishery wealth, by issuing notifications under the TNMFR Act, 1983,

- ❖ Imposing ban on fishing by mechanized boats in the east and west coasts of Tamil Nadu for a period of 45 days every year:
- ❖ Banning purse seine and pair trawl fishing by all types of crafts:
- ❖ Regulating the mesh size of gill net (minimum of 25 mm),. shrimp trawl net (minimum of 37 mm at cod end) and fish trawl nets (minimum of 75 mm at wings and 40 mm at cod end)

Inspite of these efforts, the practice of fishing small fishes as by-catches is still continuing. A community based awareness programme to educate the fishermen on the need of conserving the fishery resources by following the above regulations scrupulously will be implemented.

##### **4.2. Tuna Resources potential and Exploitation**

India is blessed with good potential of Tuna fish resources near Lakshadweep Islands, Andaman Islands, Gulf of Mannar and other major fishing grounds. Since Tuna fishing is one of the eco-friendly and low energy fishing activities targetting pelagic resources, this fishing is encouraged at all levels.

Tuna Fish has \$9 million worth of export potential, available in Indian EEZ, but concerted efforts have not been taken to tap this resource. Yellow Fin Tuna, Skip Jack, Big Eye Tuna and Coastal Tuna of 'Sashimi' grade has good export potential.

It is proposed to create awareness among the fishermen about Tuna fisheries and financial assistance for conversion of vessels for same. Further on-board vessel training and processing training will be arranged in association with various organizations like Marine Products Export Development Authority, Fisheries Survey of India etc.,

##### **4.3. Stock enhancement of inshore fishery resources**

###### **a. Sea Ranching of Shrimps**

The coastal fish habitats are affected by the industrial, urban and agricultural pollution, landfill, damming, reduction in mangrove cover, sedimentation, etc. as well as excess fishing pressure in the inshore region.

In order to redress the problems of over-exploitation and stall the depletion of resources, sea ranching of commercial shrimp species was launched. The Government have sanctioned a sum of Rs.128.40 lakh to stock 15-20 day post larvae seeds at 12 places in five coastal districts of Ramanathapuram, Pudukottai, Nagapattinam, Thanjavur and Thoothukudi. So far, Rs. 96.40 lakh has been utilized for rearing and stocking of seeds.

41 million shrimp seeds have been reared and stocked under this scheme, and the remaining 12 Million shrimp seeds will be ranches soon.

#### **b. Artificial Reef**

Artificial reef is an underwater habitat for marine life and helpful in increasing the productivity of the ecosystem. Fish would congregate in these areas for food, shelter and breeding purpose, leading to an increase in fish production.

Different types of modules for grouper, seabass and other reef fishes will be fabricated and deployed in the inshore areas of the coast. The Government have so far sanctioned Rs. 160 lakh for installation of 11 artificial reefs in the coast.

The consultancy work including site selection and impact study, has been entrusted to the Central Marine Fisheries Research Institute. Fabrication of 2,200 structures has been completed. Deployment of the said structures is in progress in eleven places.

### **5. Mariculture**

#### **5.1. Swarna Jayanthi Gram Swarozgar Yojana – Special Project (SGSY)**

The Government of India have accorded administrative approval for the following two special projects under SGSY to be implemented by the Department of Fisheries funded by the Department of Rural Development at an estimated cost of Rs. 28.16 crore as a measure of alternate livelihood support for the marine fisherfolk of Tamil Nadu.

- i) Intensive training on skill upgradation and livelihood support in Aquaculture and value addition of fishery products for the Tsunami affected fisherfolk of Tamil Nadu.
- ii) Intensive training and livelihood support in Finfish cage culture and value addition of fishery products.

The project will be implemented in the 12 Coastal Districts of Tamil Nadu in two phases within 3 years. The major components of the projects include skill upgradation of different mariculture activities such as seaweed culture, mussel and oyster culture, fin fish cage culture, lobster and crab fattening, value addition training to the fish catches, solar drying, training in engine repair and net mending and ornamental fish culture, economic support to fisherfolk for adopting mariculture activities such as seaweed and Mussel / Oyster culture and infrastructure development to support the project. This project aims to benefit about 42,000 fisherfolk by upgrading their skills and improving their economic status. Apart from this, there will be a significant increase in Aquaculture production and export earnings.

#### **5.2. Seaweed Culture**

'Seaweed' forms an important source of raw material for the manufacture of agar, carrageenan, alginates, mannitol and Iodine. Many bioactive agents and several other pharmacological products are also extracted from seaweeds. Tamil Nadu has rich seaweed

reserve base. Cultivation of seaweeds in coastal waters has been demonstrated to be remunerative. Seaweed cultivation is being undertaken in selected areas involving Self Help Groups. The seaweed cultivation will be an ideal alternate employment opportunity for diversification of fishing and thereby reducing fishing pressure in the inshore region. By cultivating seaweeds, the fishermen family can earn Rs. 200 to 250 per day. Under the SGSY Special Project, it is proposed to impart training to 6000 fisherfolk and also support 3000 fisherfolk to start their economic activity within a span of three years. For the year 2007-08, 2000 fisherfolk will be trained in seaweed cultivation at an estimated cost of Rs. 14.50 lakh and financial assistance to the tune of Rs. 357 lakh will be given as backend subsidy to start their economic activity.

### **5.3. Cage Culture of fin fishes in the sea**

The long coast line of Tamil Nadu has potential for development of mariculture activities. To diversify and reduce the fishing pressure in the inshore waters, mariculture activities will be promoted through Self Help Groups. Under SGSY Special Project, it is proposed to impart training to 16,700 fisherfolk in different mariculture activities like Lobster / Crab fattening, Seaweed culture, Mussel/Oyster farming, ornamental fish culture and cage culture of marine fin fishes within a span of 3 years.

To encourage the marine fishermen to take up culture practices, the department of Fisheries has proposed to advocate the practice of taking up cage culture in inshore areas. The candidate species for Mariculture are

1. Grouper (*Epinephelus* spp.,)
2. Sea bass (*Lates calcarifer*)

These species have a very good export market but the main constraint is limited availability of seeds for promoting cage culture in sea water. At present, the Grouper seeds are available only in natural sources. The main requirement for taking up cage culture is calm bays and calm waters where wave action is less with little variation in physico-chemical parameters. The deployment of cages require larger areas in the inshore water, which will pose hindrance to traditional fishermen in the movement of their crafts and going into the sea for fishing.

To overcome the above constraints, it has been proposed to take up a pilot project for Grouper culture in cages in selected areas, i.e calm bays, with the participation of the fisherfolk under the SGSY Special project. If proved successful, the cage culture of groupers and other important species in mariculture will be extended to other areas also. For the year 2007-08, about 4000 fisherfolk will be trained in different mariculture activities.

### **5.4. Motorisation of Traditional Crafts**

The Government is providing a subsidy of Rs. 20, 000 towards the purchase of outboard motors to be fitted in their traditional crafts with a view to extend financial assistance to fishermen for motorisation of their traditional crafts. So far, the department has provided 17,572 OBM / IBE to the Fishermen. During the year 2006-07 the Government have sanctioned Rs.210 lakhs to provide subsidy towards the purchase of 1050 Outboard Motors with a view to extend financial assistance to fishermen for motorisation of traditional crafts.

### **5.5. Reimbursement of Central Excise Duty on High Speed Diesel**

To alleviate the sufferings of the mechanised fishing boat operators, the Government reimburses the excise duty by way of subsidy towards the purchase of HSD to bring down the running cost of mechanised fishing boats. As per the present norms, the State Government offers a sum of Rs. 0.30 per litre and the Central Government offers a sum of Rs. 1.20 per

litre and a total sum of Rs. 1.50 per litre towards diesel subsidy is paid to the fishermen. Nearly 5,000 beneficiaries are being benefitted under this scheme. The Government of India have sanctioned Rs.2.59 crore as subsidy for the year 2006-07. The scheme will be continued during 2007-08 by availing assistance from Government of India.

#### **5.6. Sales Tax Exemption on sale of High Speed Diesel used by Fishermen**

The Tamil Nadu fishermen owning mechanised boats and motorised country crafts are facing great difficulties in operation of their boats due to increase in price of High Speed Diesel. Hence, a scheme was announced by providing 100% exemption from payment of Sales Tax on the purchase of High Speed Diesel for fishing activities. Accordingly, the price paid by fishermen for Diesel is reduced approximately by Rs.6.22 for every litre of diesel purchased for the operation of mechanised boats and motorised traditional crafts. 20,200 fishermen are benefitted under this Scheme. The Government have ordered to enhance the quantity of Sales Tax exempted diesel from 1,000 litres to 1,500 litres per month to mechanised boats with effect from 1.8.2006. This scheme will be continued during the year 2007-08.

### **6. FISHERMEN WELFARE SCHEMES**

Fisherfolk welfare has been one of the important agenda of this Government and the following schemes would receive continuous support and thrust,

1. Fishermen Free Housing Scheme
2. National Savings cum Relief Scheme for marine fishers
3. Group Accident Insurance Scheme for fishers
4. Funeral expenses to the bereaved fishermen family
5. Relief assistance to the fishermen affected due to Tsunami

## **6.1. Fishermen Free Housing Scheme**

In order to alleviate the sufferings of fisherfolk in the State, the Government have taken a policy decision to construct free houses to the fishermen from 1975-76. Under the scheme, so far 51,926 houses have been constructed.

For the year 2006-07, Government of Tamil Nadu has sanctioned 2000 houses under the Fishermen Free Housing Scheme and released a sum of Rs. 740 lakh. This scheme will be continued during the year 2007-08.

## **6.2. (a) National Savings-cum-Relief Scheme for Marine Fishermen**

To alleviate the sufferings of Marine fishermen which they face during the lean seasons, the Government have been continuously implementing the Savings-cum-Relief Scheme for the fishermen of Tamil Nadu.

Under this scheme, as per the Government of India norms, the fisherman beneficiary shall contribute Rs. 75/- per month as his share for a period of 8 months in an year. The contribution made by the fishermen is equally matched by the Central and State Governments i.e. Rs.300 each. A sum of Rs. 1200/- is disbursed to the beneficiaries during the four lean months. 1,79,853 Fishermen were benefited during 2006-07. This scheme will continue during the year 2007-08.

### **(b) Savings-cum-Relief Scheme for Marine Fisherwomen**

This scheme is being implemented as a state scheme from the year 2006-07. Under the scheme, a sum of Rs. 75/- per month shall be contributed by the beneficiary fisherwoman for a period of 8 months. Matching share of Rs. 600/- is provided by the State Government. Thus, the sum of Rs. 1200/- is equally distributed to the beneficiary during the 4 lean months. 1,02,993 Fisherwomen were benefited during 2006-07. This scheme will continue during the year 2007-08.

### **6.3. Group Accident Insurance Scheme for Fishers**

In the Group Accident Insurance scheme, both the State and Central Government on 50:50 basis pay the total annual Insurance premium of Rs. 14/- on behalf of the fisherman beneficiary. No premium amount is collected from the fishermen. Under this scheme, the fisherman will be given Rs. 50,000/- in case of death / permanent disability and Rs. 25,000/- for partial disability.

A sum of Rs.39.74 lakh as insurance premium has been paid through FISHCOFED, New Delhi. This scheme will continue during 2007-08.

### **6.4. Funeral expenses to bereaved fishermen family**

The Government have sanctioned a sum of Rs.5 lakh to meet out the funeral expenses of the bereaved fishermen families. A sum of Rs. 500/- is being given to each family to meet out the funeral expenses of the deceased fishermen. It is also proposed that the scheme will be implemented in co-ordination with Revenue Department for the year 2007-08.

## **7. FISHERMEN SEA SAFETY SCHEMES AND MEASURES**

### **7.1. Daily Relief to Marine Fishermen apprehended in other countries**

In order to alleviate the sufferings of the families of the genuine fishermen who are apprehended in neighbouring countries during fishing operations, a daily relief amount of Rs. 50/- is given to his family till he returns home. The Government have sanctioned a sum of Rs. 5 lakh each to the 8 District Collectors of Nagapattinam, Thanjavur, Tiruvarur, Pudukkottai, Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari for providing immediate relief.

### **7.2. Assistance to the families of deceased fishermen subjected to attack by Sri Lankan Navy**

The fishermen of Nagapattinam, Thanjavur, Tiruvarur, Pudukkottai, Ramanathapuram, Tirunelveli, Thoothukudi and Kanniyakumari Districts are fishing in the Indian territorial waters. On certain occasions, they happen to cross the International Maritime Boundary Line (IMBL) inadvertently and at times, due to engine failure and adverse weather conditions, they get drifted into Sri Lankan waters. Such Indian fishermen crossing the IMBL are subjected to attack by Sri Lankan Navy. At times, Sri Lankan Navy resorts to fire, leading to causality of innocent fishermen. All such incidents are brought to the notice of the Government of India in order to take up the matter with the Government of Sri Lanka for

their immediate intervention. The Collectors of Coastal Districts take immediate steps to release ex-gratia payment of Rs. 1 lakh from the Chief Minister's Public Relief Fund.

### **7.3. Life Jackets**

Provision of Sea safety measures, is aimed to help the fishermen at times of distress and adverse weather conditions in the sea which has gained importance in the recent years. Tamil Nadu Government have formulated a sea safety programme for artisanal and mechanised boat fishermen. Accordingly life jackets were provided to them to reduce the number of deaths. 1,68,000 life jackets will be supplied under the Tsunami Additional Relief package during the year 2007.

## **8. INLAND FISHERIES**

Inland Fisheries Sector of Tamil Nadu has 3.7 lakh ha. of inland water resources for Fisheries development comprising 52,000 ha. of reservoirs, 97,000 ha. of major Irrigation and long seasonal tanks, 1,58,000 ha. of minor Irrigation and short Seasonal tanks and ponds, 7400 km length of rivers and canals and 63,000 ha. of estuaries, backwaters and swamps which offer good scope for fisheries development. 30,000 ha. of provincialised water bodies are leased out to Inland Fishermen Cooperative Societies for stocking and exploitation of fishes. About 5000 ha of village ponds and tanks were developed to adopt composite fish culture technique's through Fish Farmers Development Agencies. The total inland fishery resource has a potential to yield 4.50 lakh metric tonnes whereas the present production is only 1.55 lakh metric tonnes. Composite fish culture activity, scampi farming (Fresh water Prawn) and ornamental fish breeding and rearing are encouraged among farmers. The reservoirs and major irrigation tanks are having high potential for inland fish production and the main focus is on the improvement of the inland fish production by adopting scientific, modern aquaculture practices wherever possible, so as to enhance the income of inland fishermen.

### **8.1. Fish Seed Production**

The Fisheries Department is having 8 induced Carp Spawning centres. For 2007-08 it is proposed to produce 3200 lakh seeds. Every year there is a huge gap between the production and supply of seeds. Therefore to bridge the gap, it is proposed to enhance the infrastructural facilities of Induced Carp Spawning centres owned by the Department and also to encourage setting up of Induced Carp Spawning centres by private entrepreneurs by giving subsidies. The funds for subsidy assistance will be availed from National Fisheries Development Board.

### **8.2. Fish Seed Rearing Centres**

The Fisheries Department is in possession of 27 fish seed rearing centres to an extent of 16 ha.. At present, only 7.5 ha. of rearing area is in operation and the remaining area is under repair. To enhance the seed production, it is proposed to repair the nurseries in a phased manner. 3,500 M<sup>2</sup> of nursery area has been repaired during 2006-07 and 17.5 lakh fingerlings have additionally been produced. These fingerlings are being stocked in departmental waters as well as sold to private farmers. During 2007-08, it is targeted to produce 370 lakh fingerlings.

### **8.3. Strategies to achieve self sufficiency in fish seed production**

In Tamil Nadu, the inland water bodies comprises of reservoirs, large seasonal tanks, rural fishery demonstration tanks, short seasonal tanks and Fish Farmers Development Agencies tanks with water spread area of 3.07 lakh hectares. For stocking quality fish seeds in all the waterbodies, 232 million fish seed is required, annually. At present, the Department

of Fisheries and Tamil Nadu Fisheries Development Corporation Limited produces 80 million fish seeds annually apart from 80 million seeds produced in private sectors. There is a gap of 72 million fish seeds for stocking in all the waterbodies. To fill up the gap 15 ha. of fish seed production and rearing area need to be developed. The Department is having 8.5 ha. of defunct nurseries which require restoration. For developing 15 ha. of seed production and rearing area, a sum of Rs.450 lakh is required as investment from Department and private sector. Within a span of 4 years, it is proposed to develop, in a phased manner the seed production and rearing facilities by encouraging private sector by availing the subsidy assistance from the National Fisheries Development Board.

#### **8.4. Reservoirs**

There are 53 Reservoirs under the control of the Department. These reservoirs are stocked with quality fingerlings by the Department. The fishery resources are being exploited by the following methods.

1. Licensing System
2. Share fishing involving nearby Inland Fishermen Co-operative Society members
3. Leasing

The reservoirs offer very high scope for fish production. It is proposed to enhance the reservoir fish production by adopting cage culture practices in 1000 m<sup>2</sup> every year. It is targeted to harvest 1750 MT during 2007-08 financial year.

#### **8.5. Fish Farmers Development Agencies (FFDA)**

The general objective of the establishment of FFDA is to popularise scientific fish culture activities in the water bodies utilizing all niches in the water bodies which ultimately result in enhanced fish production, creation of employment to rural educated unemployed youths by taking up pisciculture. At present, there are 12 FFDA's in the State for granting subsidy to fish farmers. The farmers are trained in fish culture activities, assisted in obtaining tanks on lease and are also given technical guidance till harvest. At present, only about 5,000 ha. of area is under inland fish farming activity under this scheme. To promote the FFDA activities, it is proposed to give intensive training to rural youths in fish culture and also broad base FFDA's activity by taking additional water sources from the Panchayats. The Government of Tamil Nadu have sanctioned Rs.50 lakhs in G.O.Ms.No. 47, Animal Husbandry, Dairying and Fisheries Department dated 29.3.2007 for the development of Inland Fisheries under Centrally Shared Scheme.

#### **8.6. Popularisation of Integrated Fish Farming in tanks and ponds**

The main objective of the scheme is to integrate culture of freshwater prawns with carps in ponds and tanks, to enable fish farmers to raise commercially important species such as fresh water prawn (scampi) with conventional carps, as well as to earn additional revenue. Under this programme, a farmer can avail subsidy assistance for purchase of freshwater prawn seeds. During 2006-07, the Department had disbursed a sum of Rs. 9.62 lakh as subsidy to 185 farmers covering an area of 499.90 ha.

#### **8.7. Intensive Inland Fish Culture and Marketing Scheme**

This scheme is being implemented in Villupuram, Madurai, Theni and Cuddalore Districts. About 16,000 ha of water-spread areas of seasonal and major irrigation tanks in the above Districts have been developed under this scheme for fisheries development. The tanks are leased out in open tender system for fish culture. This scheme has gained popularity among people and provides rural employment. Under this scheme, 280 tanks with an area of 9827.98 ha. were leased out during the year 2006-07, and 905 Metric tonnes of fishes were harvested. During 2007-08, it is proposed to increase the total fish production to 1000 Metric tonnes.

#### **8.8. Cage culture of fishes in water bodies**

The perennial reservoirs / water bodies in Tamil Nadu are suitable for cage culture. The surface area of the water bodies can be well utilized for cage culture for enhancing fish production. The main advantages of cage culture are that it can be easily maintained with high stocking density and high yield can be achieved. A pilot project on cage culture of fishes in Aliyar reservoir, Coimbatore District was implemented. Though the results were encouraging initially, the cage culture experiment was discontinued due to sudden wind action. For implementing cage culture in water bodies, a careful study especially with reference to the wind action has to be conducted and suitable cages have to be designed and

fabricated. Considering the high yield in cage culture, it is proposed to adopt cage culture in the suitable water bodies for enhancing fish production.

#### **8.9. Development of Post harvest Infrastructure**

For strengthening of inland fish marketing Government of Tamil Nadu have sanctioned an amount of Rs.50 lakhs in G.O.Ms.No. 46, Animal Husbandry, Dairying and Fisheries Department, dated 29.3.2007 for the establishment of infrastructure marketing facilities under Centrally Sponsored Scheme. The main components are providing insulated mini trucks, modern hygienic retail outlets with freezer facilities. The scheme will be implemented before June 2007.

#### **8.10. Development of Cold Water Fisheries**

Tamil Nadu is endowed with rich Cold Water Fishery Resources. Nilgiris in the State has been declared as a biosphere reserve. It is proposed to strengthen the Trout Hatchery and farm in Nilgiris at an estimated cost of Rs. 51.50 lakh by availing State and Central funds. In 2006-07 the Central Government has released Rs.20 lakh and state Government has released Rs.5 lakh and the works would be completed by June 2007. Balance works to the tune of Rs. 26.50 lakh would be completed by availing funds from the Central and State governments during 2007-08.

The upland water streams in the Nilgiris offer immense potential for developing sport fishing. The streams are stocked with trout fishes by the Department and licences are issued for the anglers. As part of development of sport fishery, steps will be initiated for stock enhancement of game fishes in the streams so as to attract more tourists for angling. It is targeted to issue 350 angling licences during the year 2007-08.

#### **8.11. Western Ghats Development Programme**

Western Ghats Development Programme is being implemented with the assistance of Government of India to uplift the socio-economic status of the people living in the Western Ghats. The Government of India have sanctioned Rs. 10 lakh for the construction of Mahseer Hatchery at Sholayar for the year 2006-07. The work will be completed by July 2007.

For 2007-08, the Union Planning Commission has proposed to sanction an outlay of Rs. 10 lakh for the development of fish culture and ornamental fish culture in 135 watershed areas of 33 taluks. Accordingly, it is proposed to establish a model freshwater prawn farm with laboratory facility at Tirunelveli district and to extend subsidy assistance for development of ornamental fish production and aquarium at Virudunagar district.

### **8.12. Development of ornamental fish culture**

Ornamental fish culture activity is gaining momentum in recent years. The activity has tremendous export potential. There is enormous scope for its development wherever suitable fresh water sources are available. The ornamental fish breeding has a good scope for rural employment. The technology of ornamental fish breeding is very simple and the culture involves low cost input and suited for developing as a backyard hatchery. There are more than 600 households in Kolathur, (Chennai) with backyard type of hatcheries for ornamental fish breeding. The technology needs up-gradation so that the farmers can be benefitted optimally. Hence, to demonstrate scientific ornamental fish culture, the Government have accorded sanction to establish a model ornamental fish breeding and rearing centre at Chembarambakkam at an estimated cost of Rs. 6.75 lakh. The facilities that will be developed at Chembarambakkam will be utilized to impart training to Self Help Groups and Inland Fishermen Cooperative Society members. In order to address the issues faced by the ornamental fish breeders, suitable measures will be initiated for developing water quality testing laboratory, live feed culture method, pellet feed, subsidy assistance etc. In addition to the above efforts, under SGSY Special Projects, 150 persons were imparted skill upgradation training on ornamental fish breeding and culture.

The Department of Fisheries in coordination with Fisheries Technocrats Forum conducted a National Workshop on Ornamental Fish Culture Development in India on 22<sup>nd</sup> and 23<sup>rd</sup> of February 2007. The outcome of the proceedings will be taken into consideration for effective implementation of ornamental fish culture practices and marketing during 2007-08.

### **8.13. Leasing of Inland and Coastal land and water bodies for Aquaculture**

Fisheries is an important activity which plays a vital role in rural economy. Fish is considered as the cheapest protein rich food available for the growing population. Apart from domestic consumption, it makes a remarkable contribution to export earnings and generate employment opportunities. Tamil Nadu is blessed with vast resources for fisheries development in both marine and inland. Owing to the growing dependence on the resources, environmental concerns, technological advancement in various fisheries sector and quality regulation in the international arena, there is a need to evolve a comprehensive fisheries policy specific to the needs and challenges ahead. At present, several departments such as PWD, Rural Department, HR & CE and Forest have their own policies for leasing the water bodies. Hence, the Government will evolve a comprehensive fisheries policy taking into consideration all the above issues, outcome of the national fisheries policy, fisheries policy of other States, current legislations and regulatory frame work available both national and international level.

The proposed fisheries policy will encompass the sustainable utilization of aquatic resources, infrastructure development, strengthening the marketing net work, promotion of sustainable aqua culture development, socio economic development of fisher folk / fish farmers, generate rural employment and export. Special emphasis will be given to evolve a suitable common leasing policy of inland water bodies owned by many Departments for fisheries development.

The policy will be evolved in consultation with stake holders, Non-Governmental Organisations, Central and State Research Institutes and regulatory bodies dealing with conservation and development of aquatic resources.

### **8.14. Brackish water aquaculture**

Tamil Nadu has brackish water area of 56,000 ha. and 14,880 ha. of coastal lands available for coastal aquaculture development. Shrimp Farming is done in an area of 7610 ha.

The mandatory registration of shrimp aqua farms provided in the Coastal Aquaculture Authority Act, 2005 has made all the stake holders to regulate and register all the aqua farms with Coastal Aquaculture Authority.

The changing scenario in the shrimp industry has made it necessary to take up a 'Census of Coastal Aqua Farms. From the year 2006-07, the Department initiated steps to take census of shrimp aqua farms. To promote shrimp aquaculture, the Government is providing necessary subsidy assistance under Centrally Shared Scheme at Rs. 40,000/- per ha. to small farmers having land holding of less than 2 ha.

#### **8.15. Irrigated Agriculture Modernisation and Water Bodies Restoration and Management (IAMWARM)**

IAMWARM, the acronym for Tamil Nadu Irrigated Agriculture Modernisation and Water bodies Restoration and Management project is envisioned at improving the productivity of water and agriculture for enhancing the farm income by convergence of the line Department activities using water in an integrated approach. The IAMWARM project is a World Bank funded project,

- To improve the efficiency of water use
- To improve sustainable farm income
- To improve water resources management

With these objectives, it is proposed to develop the line department activities in 63 sub-basins and a base cost of Rs.17.3 crore has been approved by World Bank towards fisheries component. During 2007-08, 9 sub-basins have been selected for the above activities. The Department of Fisheries, being a line department has proposed the fisheries activities such as Aquaculture in farm ponds, establishment of Fish seed Bank, Fish seed rearing in cages, improvement to existing Government fish seed farm, Ornamental fish culture, supply of fishing implements and Fish Kiosks at an estimated cost of Rs. 361.13 lakh to be implemented in a span of five years.

#### **8.16. Anaithu Grama Anna Marumalarchi Thittam**

The Government of Tamil Nadu in G.O.Ms.No.115, Rural Development and Panchayat Raj Department, dated.11.09.2006, have sanctioned the implementation of Anaithu Grama Anna Marumalarchi Thittam. According to this scheme, a tank in each village will be developed at a cost of Rs. 3 lakh to Rs. 5 lakh. The scheme envisages to maintain purity of water, increasing revenue to local bodies, creation of regular source of income to women self help groups by encouraging fish culture, adopting fish culture practices by local authorities for augmenting additional revenue.

So far, 1073 tanks located in 1073 villages of 25 Districts have been selected and 9,69,720 fish seeds have been stocked in these tanks.

### **9. RESEARCH**

#### **9.1. Departmental activities**

In order to carry out research to develop fisheries sector, the Department has set up two Research Stations, one at Chennai and another at Thoothukudi. 19 research projects are carried out with the approval of State Fisheries Research Council. Fisheries Department is coordinating with the Central Research Institutes, namely Central Institute of Freshwater Aquaculture, Central Institute of Brackish Water Aquaculture, Central Marine Fisheries Research Institute and the Fisheries College and Research Institute, Thoothukudi. The Department's thrust areas are

1. Extended breeding / Multiple breeding of major carps
2. Mono and Poly culture of freshwater prawns
3. Environmental Impact assessment
4. Demonstration of Marine Fin Fish Farming
5. Feed evaluation for commercially important freshwater fishes / ornamental fishes and freshwater prawns

## **9.2. Other Research Activities**

The concept of Women Self-Help Group is gaining momentum in various fields including Fisheries Sector. The Department is conducting training in the Fisheries activities for Women Self-Help Groups in the State.

The Government have sanctioned a sum of Rs.13.075 lakh for demonstration and standardization of the Mud Crab fattening and Lobster fattening technology in cages and pens. This is in line with the diversification efforts for providing alternative livelihood support to the Pulicat Lake fisherfolk in Tamil Nadu. This programme was implemented in co-ordination with National Institute of Ocean Technology, Chennai. The entire amount has been utilised. Awareness was created among the fisherfolk of Pulicat area in fattening technology of crab and lobster by framing the modern cages made up of FRP with floating mechanism. The project has been completed.

The Government have sanctioned a sum of Rs. 5.20 lakh for the training and demonstration of Sea Weed Culture as an alternative livelihood support programme to the Pulicat lake fisherfolk. Seaweed culture training was imparted to 60 Self-Help Group women members by way of training and actual culture demonstration.

For creating awareness and introducing effective techniques among the Pulicat Lake Fisherfolk for the preparation of poultry/fish feed with the available shrimp head waste. The Government have sanctioned Rs. 8 lakh for the purchase of Pulverisers and Drying Chambers. One set of Pulveriser and Drying Chamber was purchased and provided to Women Self-Help Group in Pulicat for demonstration purposes. The preparation of poultry/fish feed is successfully done and being supplied to small farmers. In this manner, significant awareness on this technology is being created among fisherfolk of Pulicat area.

## **10. EXTENSION AND TRAINING**

### **10.1 Establishment of Training Centres**

Under the financial assistance from Government of India (80:20), three Fisheries Training Centres and one Awareness Centre have been constructed to train the farmers, Fishermen Self Help Groups and others who are interested in fish culture.

### **10.2. Training for Fisher Youth**

In order to make available adequate trained manpower for the operation and maintenance of the mechanised fishing boats and to operate modern fishing gear, the fisher youth are given training for 10 months in four places in the State at Nagapattinam, Mandapam, Thoothukudi and Colachel. Each Centre is to impart training to 50 to 60 fisher youth. Besides this, a Junior Mechanic course is also conducted in these training centres. Monthly stipend of Rs. 400/- is paid to each of the selected trainee.

### **10.3. Strengthening of Database**

For strengthening the Data Base and Information Networking of the Fisheries Sector, the Government of India have accorded sanction for a sum of Rs. 68.19 lakh and also released a sum of Rs. 23.50 lakh. 34 computers and accessories have been purchased and distributed to the district level offices of the Department.

### **10.4. Touch Screen Facility**

In order to facilitate students, research, scholars and public especially fishermen to know about the various Schemes of the Government, fisheries technology, fisheries statistics and related information, Government of Tamil Nadu have sanctioned Rs. 2 lakh for installing

an advanced Touch Screen facility at the Library of Directorate of Fisheries on pilot basis. Touch Screen will be installed by ELCOT before June 2007.

**10.5. Cash awards to X , XII Standard fisherfolk students**

To encourage fisherfolk students to pursue their education, Government of Tamil Nadu have announced cash awards to the boys and girls who have obtained top ranks in X and XII Examinations. The Government have sanctioned Rs. 4.12 lakh for the year 2006-07. The scheme will be continued during 2007-08.

**11. FISHERIES CO-OPERATIVES**

There are 539 Marine Fishermen Cooperative Societies with 3,46,445 members, 389 Marine Fisherwomen Cooperative Societies with 1,44,692 members, 281 Inland Fishermen Cooperative Societies with 68,844 members, 72 Inland Fisherwomen Cooperative Societies with 7735 members, 23 other types of Cooperative societies with 5835 members, 11 District Fishermen Cooperative Federations with 762 members and one State Apex Federation with 589 members. These Societies constitute an important institution for the uplift of fishermen / fisherwomen in the State.

## **12. TAMIL NADU FISHERIES DEVELOPMENT CORPORATION LTD.**

Tamil Nadu Fisheries Development Corporation Limited was established in 1974 as a State owned undertaking. The authorized Share Capital is Rs. 500 lakh and the paid up Share Capital as on date is Rs. 445.52 lakh.

The Corporation is at present engaged in the following activities:

1. Management of reservoirs by stocking quality fish seeds and exploiting them on commercial basis.
2. Production of quality fish seeds by induced carp spawning centres at reservoir sites for stocking in the reservoirs and for sale to fish farmers.
3. Management of Ice Plants, Cold Storages and Processing Plants at Mandapam and Tuticorin.
4. Supply of diesel at subsidized price to fishermen through retail outlets at Fishing Harbours/Jetties.
5. Supply of quality fish in prime condition to public at reasonable price through retail outlets in Chennai, Madurai, Coimbatore, Tiruvannamalai and other important towns.
6. Management of Fish Net manufacturing plant at Royapuram and supply of quality fish net webbing to fishermen.
7. Management of Shrimp Hatchery at Neelankarai near Chennai and providing facilities to NIOT for the project on "Marine Living Resources Enhancement Programme".
8. Management of a Model Shrimp Farm at Karangadu.
9. Production and marketing of ornamental fishes and management of Fresh Water Aquariums.
10. Supply of OBM with subsidy to the fishermen for motorisation of traditional fishing crafts.

### **12.1. Reservoirs**

The following reservoirs are under the management of the Tamil Nadu Fisheries Development Corporation Limited in which systematic stocking of fish seeds is done. Harvesting of fish is done by engaging local fishermen who are members of the Inland Fishermen Cooperative Societies and are entitled for the value of 1/3<sup>rd</sup> of the catches as their share.

- a) Sathanur Dam
- b) Bhavanisagar
- c) Aliyar
- d) Amaravathy
- e) Thirumoorthy
- f) Uppar
- g) Palar-Porandalar
- h) Perumpallam

During the year 2006-07, 396.20 tonnes of fish were harvested realising a revenue of Rs. 142.98 lakh (which is inclusive of lease income) from the above reservoirs. For the year 2007-08, the physical target on fish exploitation is fixed as 450 tonnes and the financial target is Rs. 200 lakh.

## **12. 2. Fish Seed Production**

The Corporation is managing two fish seed production and rearing centres - one at Sathanur Dam and another at Aliyar - and fish seed rearing centres at Amaravathy, Thirumoorthy, Palar-Porandalar and Uppar. Fish seeds produced here are stocked in the reservoirs managed by the TNFDC, in addition to supplying of fish seeds to the Fisheries Department, Fish Farmers Development Agencies and private farmers. During the year 2006-07, 173 lakh of fish seeds were produced and supplied. For the year 2007-08, the target on fish seed production is fixed as 300 lakh.

## **12.3. Fish Processing**

The Corporation is in possession of Ice Plants/Processing Plants in the State. The plant at Mandapam has been leased out.

## **12. 4. Diesel Outlets**

At present, the Corporation is operating 26 diesel outlets in the Fishing Harbours and Jetties of Chennai, Mallipattinam, Tuticorin, Pazhayar etc. for the benefit of mechanized fishing boat operators and fishermen. During the year 2006-07, a target of 77,265 KL was fixed out of which 67,258 KL was sold to the fishermen. For the year 2007-08, the target for sale of diesel and oil is fixed as 83,716 KL and the estimated revenue would be Rs. 445.35 lakh.

## **12.5. Fish Marketing**

The Corporation is marketing fresh and cooked fish in the cities like Chennai, Madurai, Coimbatore, Tiruvannamalai etc. through it's retail outlets. During the year 2006-07, 816.34 tonnes of fish were sold for Rs. 477.05 lakh. For the year 2007-08, about 1020 tonnes is fixed as target for fish sales and the revenue target is Rs. 623.11 lakh.

## **12.6. Fish Net Making Factory**

A Fish Net Making Factory with a production capacity of 75 tonnes per annum is functioning at Royapuram. During the year 2006-07, 39.10 tonnes of Nylon nets were sold to fishermen for Rs. 107.98 lakh. For the year 2007-08, the target is fixed as 57 tonnes for fish net sales with revenue earning of Rs. 157.75 lakh.

## **12.7. Shrimp Hatchery At Neelankarai**

The Corporation is in possession of a Shrimp Hatchery at Neelankarai. Part of the hatchery facilities was provided to the National Institute of Ocean Technology for implementing their project on "Marine Living Resources Enhancement Programme". The remaining hatchery facilities has been leased out to "Rajiv Gandhi Centre for Aquaculture," under the control of Marine Products Export Development Authority.

## **12.8. Model Shrimp Farm**

A Model Shrimp Farm has been set up at Karangadu and leased out to private party.

## **12. 9. Production and Marketing of Ornamental Fishes**

Under the assistance received from Government of Tamil Nadu, TNFDC has set up Ornamental Fish Production Centres at Aliyar and Thirumoorthy Nagar. An Ornamental Fish Sales Centre-cum-Aquarium is functioning at Aliyar and Thirumurthy Nagar. One ornamental fish sales centre is functioning at Chennai. During the year 2006-07 a sum of Rs. 10.48 lakh was realized as income towards the sale of ornamental fish and accessories. For the year 2007-08, the anticipated income is Rs. 20.20 lakh.

## **12.10. Supply of OBM under Subsidy to Motorise the Traditional Fishing Crafts**

TNFDC is selling Outboard Motor Engines with subsidy to the fishermen for motorisation of their traditional fishing crafts. 39 engines were supplied to fishermen during the year 2006-07. For the year 2007-08, it is estimated to supply 200 engines to fishermen.

## **12.11. New Schemes**

### **1. Establishment of Modern Fish Stalls**

Modern fresh fish stalls would be established in major cities of the State.

### **2. Modernisation of Teynampet Fish Stall**

The existing Teynampet Fish Stall would be modernised. Facilities for housing a restaurant, aquarium and fish sales counter would be established.

### **3. Providing Training**

TNFDC will be establishing an ornamental fish production and value-added-products Training Centre at Chennai for fishermen/entrepreneurs/self-help groups.

## **13. Tamil Nadu State Apex Fisheries Co-operative Federation Limited (TAFCOFED)**

Tamil Nadu State Apex Fisheries Cooperative Federation Limited was registered under the Tamil Nadu Cooperative Societies Act, 1983 and started functioning from 6.11.1991 with its headquarters at Chennai. At present, 589 Primary Fishermen Cooperative Societies and 9 District Fishermen Cooperative Federations have become Members in TAFCOFED and have paid Rs. 89.095 lakh as share capital.

TAFCOFED in line with its objectives implemented the Integrated Marine Fisheries Development Project in two phases availing NCDC funds. Under this project, TAFCOFED distributed fishing inputs consisting of fishing crafts, engines and gears to the members of the Fishermen Cooperative Societies. Under this project, Rs. 19.79 crore was disbursed to 147 Fishermen Cooperatives, benefiting 5669 beneficiaries who had acquired 2736 fishing inputs.

The Government of Tamil Nadu has waived the amount of loan and interest outstanding as on 31.7.2005 to the tune of Rs. 19.56 crore. The amount was released from the Prime Minister National Relief Fund. 5635 Marine Fishermen who are members of 147 Fishermen Cooperative Societies will be benefitted.

TAFCOFED has recently started diversifying its activities to achieve sustainable and independent existence by establishing diesel bunks, sale of Out Board Motors and Service centres to facilitate Marine Fishermen.

### 13.1. Diesel Bunk

For supply of Diesel to Marine Fishermen, TAFCOFED is currently operating Diesel Bunks at the following places.

Name of the District	Name of the Village	Litres sold
Thanjavur	Sethubavachatram	1974784
Tiruvallur	Pulicat	1301081
Thoothukudi	Vembar	1222728
Cuddalore	Annankoil	777170
Nagercoil	Chinnamuttom	12000
Nagapattinam	Nagoor	12000

At these Diesel Bunks, subsidised diesel is sold to Marine Fishermen.

Diesel Bunk construction work at Neelankarai in Kanchipuram District and Tharuvaikulam in Thoothukudi District are nearing completion.

TAFCOFED is planning to put up Diesel Bunks at Kottaipattinam and Keelakarai for which TAFCOFED has obtained preliminary clearance from the Explosive Department, Government of India.

### **13.2 Service Centres**

TAFCOFED has established a service centre at Mallipattinam, Thanjavur District for selling engine spares, fishing requisites and engine oil to the marine fishermen.

### **13.3 Sale of Out Board Motors (OBM)**

TAFCOFED is also implementing a scheme (Centrally Shared Scheme) for sale of Out Board Motors to Marine Fishermen. Under this scheme, fishermen beneficiaries are offered subsidy to the maximum of Rs. 20,000 per engine. During the year 2006-07, TAFCOFED has sold 558 Out Board Motors.

In order to enable TAFCOFED to render tangible services to fisherfolk in the State, it is essential that a revamping and restructuring of the Federation is imperative. Hence, NCDC has been approached to provide requisite consultancy for drafting a future plan of action to make it a befitting Apex Federation to meet the credit needs of the Fisheries Sector in the State.

It is clearly evident from this policy note that this Government formulated and implemented various welfare schemes for the welfare of fisher folk and for the development of fisheries sector.

**K.P.P.SAMY**  
**MINISTER FOR FISHERIES**