



NFDB: Annual Report 2019-20



Annual Report

FY 2019-20

राष्ट्रीय मात्स्यिकी विकास बोर्ड

National Fisheries Development Board

मत्स्यपालन विभाग

Department of Fisheries

मत्स्यपालन, पशुपालन एवं डेयरी मंत्रालय, भारत सरकार

Ministry of Fisheries, Animal Husbandry & Dairying, Government of India

स्तम्भ संख्या -235, पी. वी. एन. आर एक्सप्रेस वे, डाक- एस. वी. पी. एन. पी. ए, हैदराबाद- 500 052

Pillar No: 235, PVNR Expressway, SVPNPA Post, Hyderabad - 500 052

फोन/ Phone No. 040- 24000177/201, फैक्स /Fax No: 040-2401 5568, वेबसाइट/website: nfdb.gov.in

PREFACE



National Fisheries Development Board (NFDB) has been making an excellent progress towards achieving Blue Revolution in the country. Various new and productive technologies have been introduced while promoting and disseminating improved fish varieties across the country. Aquaculture has been horizontally expanded by construction of new fish ponds, tanks and pens in areas where there is potential for expansion. Whereas in urban area, vertical intensification has been encouraged using intensive culture systems like Biofloc Technology, Recirculatory Aquaculture System, Cage culture etc. Motorization of deep Sea fishing vessels was supported and use of hybrid solar-wind energy harvesting systems were popularized. NFDB extends financial and technical support to the farmers/entrepreneurs for technology set-up, procurement of input, service support and capacity building. The Board has established an ISO 9001:2015 certified Aquatic Animal Health and Quality Testing Laboratory (AAH&QTL) at its headquarter in Hyderabad and also established more than 10 Aquatic Animal Health Labs across various parts of the country.

NFDB took immense effort to popularize fish as a healthy food to consume in diet. In line with it, the Board conducted 7 National Level Fish festivals across the country and had massive fish consumers turning around during the fiscal year. NFDB successfully conducted various trainings, skill development programs, workshops, seminars etc. independently/in collaboration with Institutes/States and trained about 15 thousand farmers, aquapreneurs and State Officials. Being the technical arm to the Department of Fisheries, Govt. of India, NFDB scrutinized 431 proposals under Blue Revolution which were received from States/UTs and Institutes and recommended for release of funds.

With support from Department of Fisheries, Govt. of India and cooperation from State Govt./Stakeholders/Fish Farmers/Aquapreneurs, the Board will continue to do its best to implement Pradhan Mantri Matsya Sampada Yojana (PMMSY) and ensure that the country produce sufficient quality fish for its domestic consumption as well as for earning foreign revenue. The livelihood and income generation by the farmers and aquapreneurs through fisheries and aquaculture remains our prime concern.

Dr C Suvarna, IFS
Chief Executive, NFDB

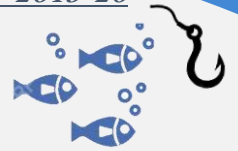


TABLE OF CONTENTS

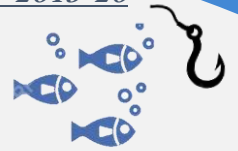
Sl.	Item	Page
Part I: Introduction		2-4
Part II: NFDB and its Activities as per Appendix IV of CSS-BR		5-63
II.1	Establishment of Fish Hatcheries	6
II.2	Establishment of Brood banks	10
II.3	Development of Post-Harvest, Value Addition Infrastructure & Marketing	12
II.4	Cold Chain Development	19
II.5	Development of Inland Fisheries	20
II.6	Promotion of Small-Scale Fisheries	32
II.7	Provision of Alternative Livelihood	38
II.8	Skill Up gradation of Stakeholders in the Fisheries Sector	41
II.9	Monitoring, Control & Surveillance and Other Need Based interventions	52
Part III: Scrutiny of CSS Blue Revolution Schemes, Monitoring & Evaluation		64-66
III.1	Scrutiny of BR projects	65
III.2	Monitoring & Evaluation of Implementing Projects	66
Part IV: NFDB Awards on Fisheries and Aquaculture		67-75
Part V: Publications		76-78
Part VI: Administration & Finance		79-92
VI.1	Members of the Governing Body	80
VI.2	Members of the Executive Committee	81
VI.3	Chief Executive of the Board	81
VI.4	Organisation Chart	82
VI.5	NFDB Officers & Staffs	83
VI.6	Right to Information Act	84
VI.7	Parliamentary Question (Lok Sabha/Rajya Sabha)	90
VI.8	Year Wise Budget Allocation	92
Part VII: Photo Gallery		93-115
Part VIII: Annual Account and Audit Report		116-117



I. INTRODUCTION



Fish Fact: Cobia (*Rachycentron canadum*) is the only fish in Rachycentridae and they have no close relatives.



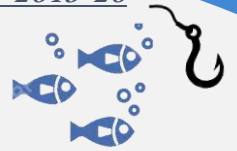
I.1. NFDB and its Mandates

The National Fisheries Development Board (NFDB) was established in 2006 as an autonomous organization under the administrative control of the Department of Fisheries, Ministry of Fisheries, Animal Husbandry & Dairying, Government of India to enhance fish production and productivity in the country and to coordinate fishery development in an integrated and holistic manner. A wide range of fishery development activities viz., intensive aquaculture in ponds and tanks, culture based capture fisheries in reservoirs, Coastal Aquaculture, Mari-culture, Sea Weed cultivation, establishment of infrastructure, fishing harbours and fish landing centres, fish dressing centres, solar drying of fish, domestic marketing, deep sea fishing, Tuna processing, ornamental fisheries, Trout culture, artificial reef, technology up gradation and capacity building of fishermen and fish farmers are being supported through the State Governments/Implementing agencies. The activities of NFDB are overseen by a Governing Body under the Chairmanship of the Union Agriculture Minister. The Governing Body and the Executive Committee consider and decide the activities of the Board and provide periodic guidance. The Executive Committee, with the Secretary in charge of Department of Fisheries as its Chairman, provides the general superintendence, direction and the control of the affairs and functions of the Board. The NFDB is headed by a Chief Executive.

Mission

Holistic development of the fisheries sector through enhancement of fish production and productivity; to supplement nutritious protein for the growing population; to accelerate the overall economy of the country, besides improving health, economy, exports, employment and tourism in the country.





Mandates:

- To provide focussed attention to fisheries and aquaculture (Production, Processing, Storage, Transport and Marketing)
- To achieve sustainable management and conservation of natural aquatic resources
- To apply modern tools of research and development for optimizing production and productivity from fisheries.
- To provide modern infrastructure mechanisms for effective fisheries management and optimum utilization
- To train and empower women in the fisheries sector and also generate substantial employment
- To enhance the contribution of the fish toward food and nutritional security



II: NFDB & ITS ACTIVITIES



Fish Fact: Mud crabs use their claws to defend themselves and will even shed a claw to escape. In many cases, a new, fully functional claw will grow back.



II.1. Establishment of Fish Hatcheries

A. Establishment of Hatcheries for Diversified Aquaculture Species

As a part of NFDB programme for “Diversification of fish species for Aquaculture Development”, the Board in collaboration with the MPEDA-RGCA initiated for establishment of hatcheries for diversified aquaculture species such as Sea bass, mud crab, cobia, pompano and GIFT Tilapia. NFDB invited applications from the Govt. organizations/firms/entrepreneurs in technical collaboration with Rajiv Gandhi Centre for Aquaculture(RGCA) of the Marine Products Export Development Authority (MPEDA) for establishing hatcheries for diversified aquaculture species (Sea bass (*Lates calcarifer*), Mud Crab (*Scylla serrata*), Gift Tilapia (*Oreochromis niloticus*), Cobia (*Rachycentroncanadum*) and Silver Pompano (*Trachinotusblochii*).

Table: Species and Specification for establishment of the Hatcheries

Type of Hatchery	Suitable Species	Production Capacity	Unit Cost (Rs. in lakh)
Tilapia Hatchery	GIFT Tilapia	3 mil fingerlings/yr	100
Marine Finfish Hatchery	Sea bass, Cobia, Silver Pompano& Indian Pompano	2 mil fingerlings/yr	300
Crab Hatchery	Mud Crab & Blue swimming crab	5 mil instar/yr	300

Under the programme, NFDB received 20 EoI applications, out of which 12 were recommended after site inspection and evaluation and received 10 DPRs (Tilapia hatchery-4 nos.; Marine finfish hatchery- 4 nos. and Mud crab hatchery- 2 nos.) submitted by 10 applicants. Accordingly, NFDB sanctioned Rs. 4.39 crore towards 8 new hatcheries to MPEDA-Kochi during 2019-20 to be carried out in 4 States, namely Andhra Pradesh, Kerala, Rajasthan and Tamil Nadu and released Rs. 2.19 crore for the same. Construction of the breeding units is ongoing. One of the units, M/s Rosen Fisheries Pvt. Ltd. Thrissur, Kerala has started rearing Tilapia brooder seeds.





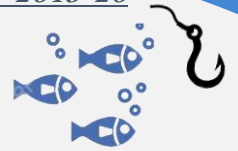
Table: Details of the Sanction and Releases made by NFDB to MPEDA Kochi under this program during 2019-20

				Amount Rs. in Lakh
Sl.	Name of the project	Amount Sanctioned	Amount Released	Established at
1	Establishment of Tilapia hatchery to M/s Rosen Fisheries Pvt. Ltd.	9.37	4.68	Marathakkara Village, Kerala
2	Establishment of marine fin fish hatchery (Seabass & Pompano) by M/s Roshita Enterprises LLP ChepalaKancheru)	74.16	37.08	Andhra Pradesh
3	Establishment of Crab Hatchery by M/s PLUTUS AQUA LLP, Chirraynam Village, Katrenikona, East Godavari Dist	74.16	37.08	Chirraynam Village, Andhra Pradesh
4	Establishment of marine fin fish hatchery (Seabass hatchery) to M/s GSR hatcheries	74.16	37.08	Bhimavaram, Andhra Pradesh
5	Establishment of GIFT Tilapia hatchery at Kancheepuram	24.72	12.36	Kancheepuram, Tamil Nadu
6	Establishment of GIFT Tilapia hatchery by FISHCOPFED, Banasawara, Rajasthan	21.87	10.93	Banasawara, Rajasthan
7	Establishment of crab hatchery to M/S. GSR Crab Hatcheries Regd. Bhimavaram	74.16	37.08	Bhimavaram, Andhra Pradesh
8	Establishing of marine finfish (Seabass) Hatchery to M/S Seabass AquatechPvt., Nellore	74.16	37.08	Nellore, Andhra Pradesh

B. Hatchery for Amur Common carp/Jayanti Rohu

NFDB in collaboration with ICAR-CIFE has undertaken a project for establishing a hatchery for Amur Common carp/Jayanti Rohu at CIFE centre in Powerkheda, Madhya Pradesh to fulfil the demand of these improved variety fishes in the State and adjoining states. Field trials and on-farm trials confirm the growth potential of improved "Rohu Jayanti" and at least 50% economic gain may be obtained. It takes only around two months to attain marketable size. Amur Common Carp is another fast-growing variety and due to its late maturity characteristic, it can attain





higher growth rate. Project components consist of Construction of Circular Chinese Hatchery with a Breeding Pool-1, Hatching Pool-2, Brood stock pond-1, Water supply system-1, Nursery pond-6, Office shed-1, Bore well-4, Cement Cistern-20. During 2019-20, NFDB released Rs.12.50 lakh to CIFE-Mumbai for completion of the hatchery establishment at its sub-centre. On completion, this unit can be used as a production and supply unit of the two improved breeds of fish in the neighbouring areas.

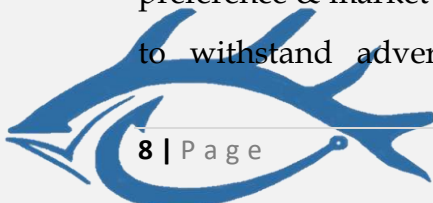
C. Hatchery for Giant Freshwater Prawn by RPCAU, Bihar

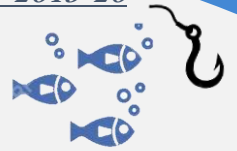
NFDB in collaboration with College of Fisheries, Rajendra Prasad Agricultural University, Pusa, Bihar initiated establishment of a seed production unit for giant freshwater prawn/scampi in Bihar to ensure seed production and supply of scampi in the State and the neighbouring areas. NFDB sanctioned an amount of Rs. 77.162 lakh at 100% NFDB funding and released Rs. 23.25 lakh to Rajendra Prasad Agricultural University, Pusa, Bihar. Accordingly, RPCAU has floated the EoI for the Hatchery establishment. Foundation stone for Scampi Hatchery at CoF-RPCAU, Bihar was laid by the Hon'ble Union Minister of Fisheries, Shri Giriraj Singh. The hatchery seed production will contribute towards scampi farming in the freshwater bodies in Bihar State.



D. Hatchery for Murrel

Murrel is an important indigenous air-breathing freshwater fish highly preferred for consumption because of its flavour and meaty flesh with less intra-muscular bones. Fairly good growth rate, high consumer preference & market price and their ability to withstand adverse water conditions





make them suitable candidate species for freshwater aquaculture. The demand for snakeheads seedlings is, by and large, met from the wild collections and the commercial culture of Murrel is not common yet due to inadequate availability of seedlings and quality feed. To meet the demand of the highly priced fish, NFDB sanctioned establishment of 10 nos. of Murrel Hatchery in Manipur for 10 unemployed farmers including 4 women. The construction of the hatcheries and rearing ponds is on the verge of completion.





II.2. Establishment of Marine Fin Fish Brood bank

Quality seed availability is the main key factor for the successful expansion and commercialisation of the highly valued marine species in India. With the growth of Sea cage farming, marine fin fish seed requirement has become an indispensable component and that can be achieved only through year round seed production under the controlled reproductive maturation in a bio-secured condition such as brood stock holding facility or Brood bank equipped with re-circulatory aquaculture systems (RAS) and photo thermal control. Cobia and Silver Pompano are two lucrative species among all other high value marine fish for farming in India due to its fast growth, acceptability in domestic and export markets and better farm gate price.

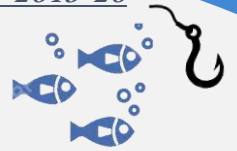
NFDB in collaboration with ICAR-CMFRI initiated two projects during 2017-18 and NFDB have released Rs. 1.01 crore during 2019-20. These brood banks comprised of Recirculatory Aquaculture System (RAS), quarantine facility, egg incubation, live feed culture unit, Bio-secured photo period enabled units and larval production facility.

Table: Details of Releases made by NFDB to ICAR-CMFRI during 2019-20

			Amount Rs. in Lakh
Sl.	Implementing Partner/Agency	Name of the project	Amount Released
1	ICAR-CMFRI, Mandapam	Enhancing production of farmed silver Pompano (<i>Trachinotus blochii</i>) through the establishment of brood bank, supply of larvae to State for seed production with TPC of Rs. 5.64cr	50.60
2	ICAR-CMFRI, Vizhinjam	Enhancing production of Cobia (<i>Rachycentron canadum</i>) through the establishment of brood bank, supply of larvae to State for seed production with TPC of Rs. 3.24cr	50.49

Cobia brood bank has supplied around 2 lakh of Cobia yolk sac to M/s MSR Aqua Hatchery, Kakinada, Andhra Pradesh. 5000 cobia fingerlings were supplied to TNJFU and 15,000 cobia fingerlings to farmers of Nellore for rearing. A total of 139 fishes of cobia (sub-adults and adults) were maintained in sea cages of Mandapam Centre.





Similarly, Silver Pompano Brood bank of Vizhinjam RC of CMFRI has supplied 2.0 Lakh numbers of Silver Pompano Yolk Sac larvae to M/S MSR Aqua Hatchery and the hatchery could produce 52,000 Silver Pompano fingerlings in the first trial. About 4000 seeds have already been distributed to 7 cage farmers. A total of 200 sub-adults weighing (400 to 1600 g) were collected and reared in RAS facility. A total of 1000 pompano fishes stocked in cages presently weighing about 1.2-2 kg.

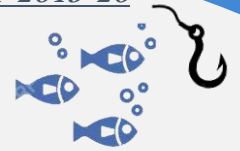


Brood Bank



Supply of Seed to Govt. Farms





II.3. Development of Post-Harvest, Value Addition Infrastructure & Marketing

A. Establishment of Wholesale Fish Markets at four places in Tamil Nadu

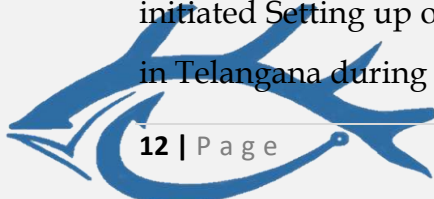
NFDB envisages to ensure food safety compliance mechanism in domestic whole sale or retail fish market and, to raise them to international standards so as to accelerate growth of the domestic marketing sector in the country. In view of it, establishment of modern hygienic fish market with cold chain facilities are proposed for execution. The market can have 10 retail outlets, 20 retail outlet and 50 retail outlets units with common cold storage facilities, waste collection & disposal units, fish cleaning and dressing space, auctioning platforms water and power supply facilities, waste water disposal through drainage system etc. Implementing Agency of the project is Department of Fisheries, Govt. of Tamil Nadu at 4 locations, namely Virattipattu, Anichampalayam, Krishnagiri and Erode. The success of this program will greatly ensure product quality and better food safety standards for both domestic consumers and export market.

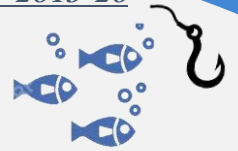
Table: Details of the Sanction and Releases made by NFDB to DoF, Tamil Nadu for Establishment of Wholesale Fish Market during 2019-20

Sl.	Name of the project	Amount Rs. in Lakh	
		Amount Sanctioned	Amount Released
1	Construction of new Fish market at Karumandichellipalyam, Erode	51.50	12.87
2	Construction of new Fish market at Virattipattu, Madurai	154.50	38.62
3	Construction of new Fish market at atAnichampalayam, Villupuram	128.75	32.19
4	Construction of new Fish market at atKrishnagiri	58.34	14.56
Total		393.09	98.27

B. Establishment of Mobile Fish Retail Outlets in Telangana

NFDB in collaboration with the Department of Fisheries, Telangana State initiated Setting up of mobile fish retail outlets for the unemployed women in Telangana during 2019-20. The programme aims to provide livelihood to





the unemployed women in the GHMC limits and to provide fish in the desired form to the consumers through 150 mobile fish vending units equipped with all facilities for dressing, cutting, storage and preparation of ready to eat items of fin and shell fishes. Project comprises of Mobile selling units (four-wheeler), requisite equipment for fish dressing, cutting table and packaging, Deep freezer for storage, Insulated ice boxes, ice boxes, electronic balances and display unit, Stove, cooking gas etc. NFDB have sanctioned Rs. 5.4 cr and released Rs.1.08cr to DoF, Telangana for the same and establishment is ongoing.

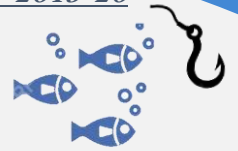
C. Upgradation of Matsya-dharshini Retail outlet and establishment of Training centre at Telangana

NFDB in collaboration with Telangana Fishermen Co-operative Federation (TSFCOF) initiated the programme for up gradation of Matsyadharshini Retail outlet and establishment of Training centre at Telangana. The programme aimed to establish modern hygienic condition to the consumers, promote the fish consumption, improve the marketing sector through integration of all activities such as sale of live fish, fresh fish, chilled fish, dry fish, cooked fish products etc. and also to impart training on making traditional/regional fish recipes/fish cuisines. Through successful establishment of this unit, varieties of fresh fish in different forms can be made available for sale with quality at reasonable prices. NFDB sanctioned Rs. 15.85 lakh @ 50% NFDB share and released Rs.7.93 lakh to DoF, Telangana for the same and up gradation of the units is going on.

D. Development of Bharat Nagar Metro Station Retail Fish Market

NFDB proposed to establish a modern & hygienic fish retail market at Bharat Nagar, Hyderabad by modifying 16 shops (each of 100 sqft) of Hyderabad Metro Rail Limited (HMRL) situated near Bharat Nagar Metro station in Hyderabad. The proposed site is a busy place with MMTS station 200 meters away and adjacent to vegetable market under the metro rail station Bharat Nagar. The shops have good connectivity with road and nearby colonies. Metro rail, MMTS commuters





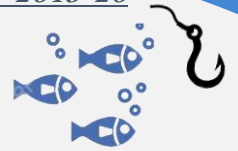
and other common public can use the facility and thus the location has high potential to develop into fish market. The Hyderabad Metro Rail Limited and NFDB decided that NFDB will take the shops on lease for a period of 15 years, modify them into fish retail outlets with all required facilities and further rent it out to fishers & their co-operatives and other entrepreneurs for fish vending.

The technical work for development of retail fish outlet will consist of modification of the existing shops (16 nos.) into fish retail outlets viz. Overhead tanks, Water supply Connection, Wash basins, Drainage system, Fish Display platform and fish cutting platform, Bottom flooring with antiskid tiles with sloping to drainage, redoing walls with ceramic tiles for a height of 2m, providing common electrical supply to each stall with individual electric meter and other required fittings and lighting and fan arrangements, Weighing Scale (Capacity 1 to 10 kgs) for 14 stalls and FRP Dustbin for each stalls, Triangular sunshades, Whitewashing and colour washing, Repairing of the existing shutters if any, Painting and numbering, Machinery and equipment for the chill room and flake ice unit (in 2 stalls) etc. NFDB sanctioned Rs. 43.48 lakh and released first instalment of Rs.4.34 lakh to the EE, CPWD-IV, Hyderabad.

E. Purchase of two mobile Food Trucks (KIOSK) by Telangana Fishermen Co-operative Federation (TSFCOF)

Department of fisheries, Telangana proposed for procurement of two mobile food truck (1 no-Mahindra Bolero City Pickup & 1 no- Force-Shaktiman 200-2770 with necessary alterations) by the Telangana State Fishermen Coop. Societies Federation Ltd. Hyderabad to operate in the city for selling of ready-to-eat and ready-to-cook items. They will also train unemployed youth and fisher-folk for alternative livelihood opportunities. An amount of Rs. 10 lakh has been sanctioned and the trucks have already been procured.





F. Procurement & Conversion of trawlers into resource specific deep sea fishing vessels

For conversion of 54 Trawlers in State of Andhra Pradesh sanctioned at Kakinada, for 20 beneficiaries the conversion works are going on. For the purchase of 15 M Wooden Deep Sea Fishing vessel at Andaman to operate Tuna Long lining and Gill nets for the harvest of Tuna and Tuna like fishes in Deep sea by an individual traditional fisherman in A&N Islands almost completed with the boats constructed and fixing of engines is in progress.

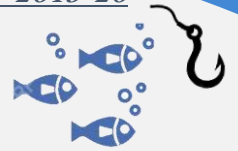
Table: Project wise Releases made by NFDB during 2019-20 for the Procurement and Conversion of Trawlers

				Amount Rs. in Lakh	
Sl.	Implementing Partner/Agency	Name of the project	Amount Released	Established State	
1	DoF, Andhra Pradesh	Conversion of trawlers into resource specific deep sea fishing vessels	427.00	Andhra Pradesh	
2	DoF, Andaman & Nicobar Islands	Purchase of 15 M wooden boat for deep sea fishing by Traditional fishers.	8.88	Andaman Island	



Converted deep sea fishing vessels at Andhra Pradesh





Deep sea fishing boat procured at Andaman islands by traditional Fisherman

G. Up gradation of Fishing Harbour at Porbandar, Gujarat

With the increasing number of fishing boats landing in the coast of Gujarat, the up gradation of the existing Fishing Harbor of Porbandar was proposed. Known for all-weather port, the harbour required up gradation to ensure that all activities related to fishing including fish catch and landing, preservation, sale with/without value addition can be carried out properly. NFDB, in 2011-12 sanctioned the project to Department of Fisheries, Govt. of Gujarat under Up gradation/ renovation of Fishing Harbour for Rs. 6.96 cr NFDB share. For completion of the same, NFDB released Rs. 69.30 lakh during 2019-20 as the final instalment.

On completion, there would be better facilities for the fishermen in the form of new auction hall, compound walls, better supply of fresh and sea water along with water drainage system and new-fangled electrical works. Through this intervention, the required facilities will be added to ensure efficient operational conditions of the fishing harbour in accordance with national/international hygienic standards/specification in force from time to time.





H. Supply & installation of Solar-Wind Energy Powered systems for Fisheries

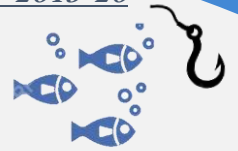
NFDB in collaboration with National Institute of Rural Development and Panchayati Raj (NIRDPR) and State Fisheries Department is promoting utilisation of renewable energy in various fisheries and aquaculture activities using 'Hybrid Solar Wind Energy Generator'. The solar wind energy generator is a hybrid, modular, scalable, distributed renewable energy system designed and optimized for on-off grid installations at inland, on-shore and off-shore locations. The technology for harnessing Solar-Wind Energy was developed by Wind Stream Energy Technologies India Pvt Ltd., and it can be used to provide alternate source or as the only source of electrical energy for operating any fisheries related Unit located inland or along the coast or on an Island. The unit cost is as per the cost estimated by the technology developer based on the components.

Further, the Recirculatory Aquaculture System (RAS) established at NFDB is having an open truss of area approx. 10 m X 10 m. The electricity consumption was about 2000 Units per month for the six motors and two blowers costing Rs.20000/- per month. To meet the electricity demand, NFDB with NIRDPR installed a 15 kW Solar On Grid System with PV panels.

Table: Project wise Releases made by NFDB during 2019-20 for Supply & installation of Solar-Wind Energy Powered systems

Sl.	Name of the project	Amount Rs. in Lakh	
		Amount Released	Established at
1	Supply & installation of 12.5 KW Solar-Wind Renewable Energy system at NFFBB, Bhubaneswar.	8.55	Odisha (NFFBB)
2	Supply and installation of 20 KW off grid-hybrid plant for directorate of fisheries building, Kavarati, Lakshadweep	13.58	Lakshadweep
3	Supply and installation of 40 KW off grid-hybrid plant for seawater block ice plant, Kavarati, Lakshadweep	26.40	Lakshadweep





4	Supply and installation of 1400 Wx 2 Nos off grid-hybrid plants for LEDA and diving academy, Kavarati, Lakshadweep	2.00	Lakshadweep
5	Additional Supply & installation of Solar-Wind Hybrid power generators in cages at Chandil Dam, Jharkhand	5.51	Jharkhand
6	Installation of Solar energy plant for RAS demonstration unit at NFDB, Hyderabad	5.17	Telangana (NFDB)





II.4. Cold Chain Development

A. Established Mobile Fish Kiosks and Mobile Sea Food Restaurants

During the year 2012-13 under the Scheme of NADP and the financial assistance from NFDB, Tamil Nadu Fisheries Development Corporation (TNFDC) established Mobile Fish Kiosks and Mobile Sea Food Restaurants and the same being are operated at various places of Tamil Nadu. TNFDC Ltd., also developed with logo “*IdhunammaooruMeengal*” for marketing fish and fishery products. It is felt that Tuna and Shrimp are the two major Sea Food varieties having lot of scope for domestic consumption. Hence, the agency proposed to create exclusive value chain facilities for promotion of domestic marketing. This is for the creation of innovative retail outlet value chain facilities for domestic marketing of shrimp and Tuna delicacies at Chennai, to ensure availability of protein rich fish food to general public. In view of it, NFDB sanctioned Rs. 15.00 lakh during 2019-20 to TNFDC and released Rs. 7.50 lakh as first instalment.

B. Value Chain Model for Tuna Fisheries by BoBP-IGO

With the financial assistance of NFDB, Bay of Bengal Programme (BoBP), Chennai is carrying out the “Development of Business Case for Value Chain Model for Tuna Fisheries in Lakshadweep Island” and “Improvement of Value Chain for Yellow Fin Tuna Fisheries in selected sites along the coast of India: Taking forward Puducherry and Jalaripalem Value Chain Pilots”. The Project was approved by the 32nd and 33rd Executive Committee (EC) Meeting of NFDB and approval was accorded under the Annual Action Plan for 2017-18 and 2018-19 respectively.

The project on Yellow Fin Tuna Fisheries along the East coast of India identified prospective site and stakeholders for participation in the activity at 3 sites (Nagapattinam Tamil Nadu; Kanyakumari, Tamil Nadu and Vizag, Andhra Pradesh) and the project has completed the Data analysis for challenges and





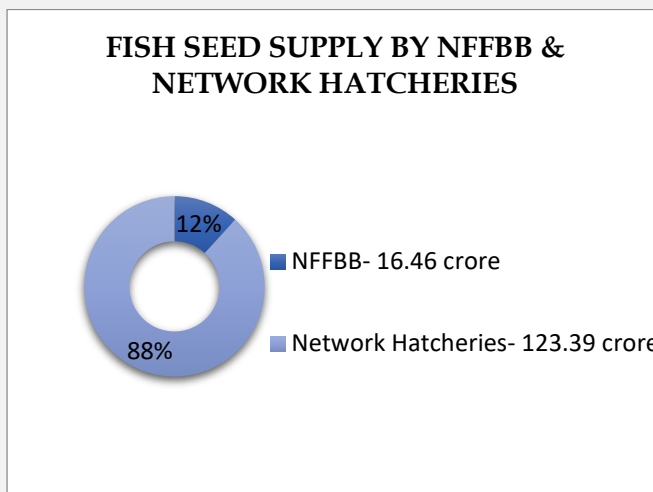
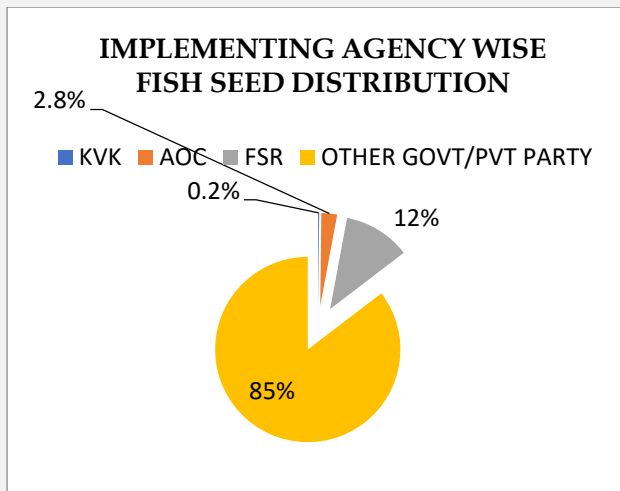
opportunities, including investigations on bait fisheries in these areas for capacity development of the Tuna fisheries.

II.5. Development of Inland Fisheries

A. Demonstration of growth performance of improved fish varieties - Jayanti Rohu/Amur carp at KVK under NFDB-NFFBB

Quality of fish seed is the one of the important factors that affects production and returns in pond culture. Government need to ensure proper supply seed of better genetic quality in order to overcome inbreeding problems and improve traits through genetic improvement programs. During 2019-20, NFDB-NFFBB and its network hatcheries supplied 344.37 lakh fish seed (including spawn, fry and fingerling of improved fish species (Jayanti Rohu, Improved Catla and Amur Carp) to farmers taking up the demonstration project through KVKs and AOCs. In addition, fish seeds are also supplied to Fish Seed Rearing units implemented through NFDB- NFFBB and to other Govt./ Pvt. Parties. The cyclone “FANI” which made a landfall at Puri coast on 03.05.2019 caused huge damage to the infrastructures developed at NFFBB. Due to the effect of FANI, the fish seed production at NFFBB was delayed and the Network Hatcheries located in the cyclone hit areas were also affected. The seed production and dissemination are immensely affected as the cyclone made a landfall during early of the breeding season of the year, 2019-20.

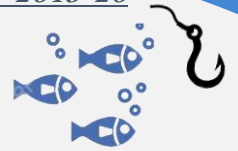




During 2019-20, NFDB disseminated 139.85 crore spawn of improved fish varieties to the farmers across the country with the help of NFFBB and its Network Hatcheries due to which revenue of Rs. 41.52 lakh was also generated by NFFBB. Through KVKs, NFDB assisted 86 farmers who were willing to take up demonstration on culture of Improved Fish Species in a total WSA of 74.514 ha.

Amount in Rs. in lakh						
Year of Sanction	No. of KVKs	No. of States	Area covered	No. of Farmers	Amount Sanctioned	Amount Released
2019-20	15	7	74.514 ha	86	39.63	21.61





Distribution of Fish Seed to Farmers by KVK, Thoubal, Manipur



Jayanti Rohu Growth Sampling at Farmer's Pond

B. Setting up of Fish Seed Rearing Units through NFDB-Regional Centres

Advanced fish fingerlings of the desired species in required quantity are essential for stocking in grow-out ponds for realizing satisfactory survival, production as well as productivity. To meet the growing demand for advanced fish fingerling in the country, fish seed growers have acquired special significance. NFDB floated EOI for setting up of Fish Seed Rearing Units by construction of new fish seed rearing ponds, conditioning ponds, seed packing sheds, strengthen pond dikes, pond liners and procurement of accessories like fry/ fingerling collection nets, fish seed packaging accessories like oxygen cylinders, plastic crates and support for inputs and services as per the BR norms (Maximum of 1 ha per farmer with unit cost of Rs.7.50 lakh).NFDB released Rs. 1.83 crore setting up of Fish seed rearing units covering 171 farmers. NFDB also sanctioned Rs. 1.128 lakh towards 4 farmers of Mizoram for 2.2 ha area at Kolasib district viz., 0.5 Ha in Chemphai, Kolasib 0.5 Ha in Zero point, Kolasib 0.5 Ha in Rem rem Picnic point, Kolasib and 0.7 Ha in BuhchangPhai, Kolasib. Releases will be made after the completion of construction of the ponds.

Table: Project wise Releases made by NFDB during 2019-20 for Construction of Fish Seed Rearing Units at West Bengal & Mizoram





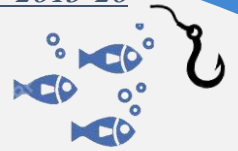
Amount Rs. in Lakh				
State	Project	Amount Sanctioned	Amount Released	Beneficiaries
West Bengal	Setting up of Fish Seed rearing Units of 105.79 ha of 117 beneficiaries at Ramsagar, Bankura	159.64	113.40	117
West Bengal	Setting up of Fish Seed rearing Units of 54 ha of 54 beneficiaries at Ramsagar, bankura District	89.40	70.41	54
Mizoram	Setting up of Fish Seed rearing Units at Kolasib District in 2.2ha	7.128	0	4

C. Setting up of Indian Major Carp milt Cryobank

NFDB has funded the Indian Major Carp (IMC) Milt Cryobank project to NBFGR, Lucknow for establishing IMC milt cryo-banking facility and supply system to improve brood stock diversity for quality seed production for aquaculture. Under the project, Capacity building of State fisheries officials, hatchery managers, entrepreneurs for using cryopreserved sperm for seed production has also been taken up.

During 2019-20, the basic facility for cryo-storage of carp milt on large scale has been established which includes Liquid nitrogen vapour phase storage system, Cold handling cabinet, Programmable freezer, Dry shippers, 1000 L Liquid Nitrogen Storage Tank. The selected potential brooders were PIT tagged, reared separately and used for collection of milt. These milts are preserved and supplied to thirteen different hatcheries located at 4 states (Uttar Pradesh, Bihar, West Bengal and Odisha). A total of 78.3 lakh IMC eggs were fertilized using 1444 ml cryo-preserved milt of which 37.2 lakh spawns were produced.





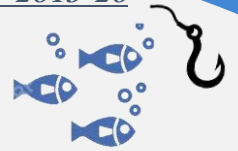
Nine in-house training programs (hatchery operators/ progressive farmers from 21 states) at NBFGR, Lucknow and 13 field training programmes in 4 states (Odisha, West Bengal, Bihar and Uttar Pradesh) were completed. A total of 330 hatchery operators/prospective farmers were trained on fish milt cryopreservation and utilization of cryo-preserved IMC milt in fertilization of eggs to produce genetically diversified progeny, mainly to overcome the persisting issue of inbreeding. Further, apart from up-scaling the IMC milt preservation from 2 ml vial to 5 ml vial, the cryo-preserved IMC milt originating from the Ganga stock is planned to be supplied to selected hatcheries in Bihar, Assam, Tripura, Kerala, Haryana, Rajasthan and Madhya Pradesh.



D. Establishment of Recirculatory Aquaculture System

Re-circulatory Aquaculture System is a high-tech aquaculture production system of recent introduction to the country and is regarded as one of the upcoming technologies for intensification and enhancing fish production. The growing demand and market competition for quality fish are factors fuelling rapid popularization and growth of this new farming system. It is providing a viable alternative platform for enhancing aquaculture production in urban and peri-urban region where land and water is limited and expensive, and serving as new opportunity to meet the niche market needs of elite consumers for fresh/live/chilled/quality fish with traceability and quality services. With the aim of Additional employment and income benefiting variedly skilled and unskilled workers, NFDB took up a project for the establishment of a refined cheap Backyard-RAS technology developed by the Centre for aquatic animal health (NCAAH), CUSAT, Kochi. During 2019-20, NFDB released Rs.2.38cr to Director, National Center for Aquatic Animal Health (NCAAH), CUSAT, Kochi for setting up of 164 units of backyard RAS at Kerala and Telangana. NFDB also released Rs. 10 lakh to College of Fisheries, RPCUA-Bihar and TNJFU-Tamil Nadu for





establishment of demonstration units at the college campus for training and demonstration for students and farmers.

For the establishment of RAS at RPCAU-Bihar, all the civil work of Backyard RAS has been completed. All infrastructure has been installed except bio filter. The installed infrastructure was inaugurated by Sri Giriraj Singh, Hon'ble Union Minister for Fisheries, Animal husbandry and Dairying, Govt. of India on 18th February, 2019. After the installation of bio filter, the RAS unit will be used to do research for customization of selected indigenous high value fish.



RAS for Ornamental Fish and Shrimp Culture was taken up by TNJFU and the proposed equipment like Bio filter, Solid settling chambers for filter tank, Drum filter of 300 LPM, Electric pump of 1 HP capacity with nozzle air pipes, Water jet sprayer and air pressure sensor and Generator have been procured and installed. *Litopenaeus vannamei* seeds of PL 20 (2000 nos.) were procured from Aqua Hatchery Nikita., Kanathur and stocked.

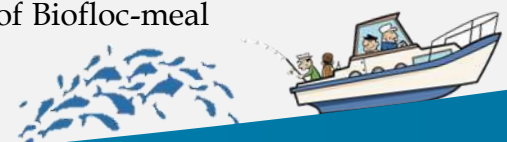


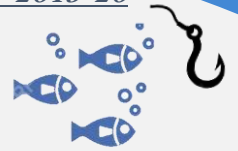
E. Establishment of Biofloc Based Fish/Shrimp Farm

Biofloc technology has recently gained attention as a sustainable method to control water quality, with the added value of producing proteinaceous feed in situ. To make this technique a keystone of future sustainable aquaculture, after a long deliberation with experts and farmers, NFDB came up this new scheme with training besides providing financial and technical assistance to farmers. During 2019-20, NFDB released Rs. 15 lakh to



TNJFU for establishing a bio-floc unit with raceway tanks with paddle-wheel aerator, photo-bioreactor, etc., for ex-situ production of Biofloc-meal





to be used as *L. vannamei* shrimp feed. The unit is used for demonstration and training to farmers, entrepreneurs and students.

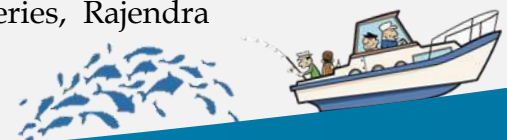
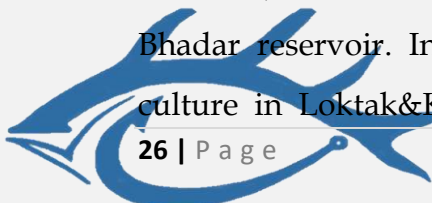
M/s KGRM farm at Pidauli in Begusarai district, Bihar established biofloc based fish farm on commercial scale under the guidance of ICAR-CIFE Regional Centre at Motipur. NFDB extended financial assistance of Rs. 3.6 lakh for expansion of the indoor biofloc farm and as on today, M/s KGRM farm is training various farmers and also fetching harvest on large scale of *Pangasius* and *Tilapia*.

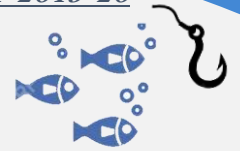


F. Cage Culture in Reservoirs and Rivers

The reservoirs of India have a combined surface area of 3.15 million ha with huge untapped potential. Utilizing a modest fraction of their surface area of large and medium reservoirs can contribute a substantial quantity of fish to the total inland fish production basket. Cage culture, being suitable for a wide range of open freshwater ecosystems, NFDB envisages sustainable utilisation of these water bodies with cage culture on integrated mode with cage and other supporting facilities like hatchery, fish seed rearing units, feed mill, cold chain facility, etc. to make the project self-sufficient and sustainable.

NFDB invited Expression of Interest (EoI) for taking up fish culture in cages with an integrated approach in reservoirs in Madhya Pradesh. Based on the technical feasibility, the project was sanctioned for 200 cages; 100 cages each to Ms/ Hathivan Technoplast and M/s MM Enterprises for taking up cage culture in Halali and Bargi reservoir respectively in Madhya Pradesh. NFDB also sanctioned five projects on Cage culture in various Reservoirs in Gujarat as per the recommendation of the Commissioner of Fisheries and the SLAMC, Govt. of Gujarat. Sanctioned units are 500cages in Madhuban reservoir, 1500 in Dharoi reservoir, 500 in Meshwo reservoir, and 1000 in Bhadar reservoir. In Manipur, 96 cages have been sanctioned for cage culture in Loktak & Kabongpat Lakes. The college of Fisheries, Rajendra





Prasad Agricultural University, Bihar Pusa will also be installing 24 cages in Budhi Gandak River and Biraulimaun of Samastipur with NFDB assistance.

Table: Project wise Details and Releases made by NFDB during 2019-20

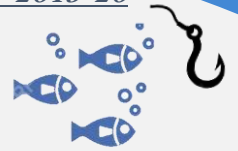
Sl.	Name of the project	No. of cages	NFDB share Sanctioned	NFDBshare released in 2019-20
1.	Integrated Inland Cage Culture in Halali Reservoir, Madhya Pradesh	100	111.24	55.62
2.	Integrated Inland Cage Culture in Bargi Reservoir, Madhya Pradesh	100	74.16	37.08
3.	Integrated Inland Cage Culture in Madhuban Reservoir, Gujarat	500	556.20	528.10
4.	Integrated Inland Cage Culture in Dharoi Reservoir, Gujarat	1000	1130.94	1098.00
5.	Integrated Inland Cage Culture in Dharoi Reservoir, Gujarat	500	565.47	549.00
6.	Integrated Inland Cage Culture in Meshwo Reservoir, Gujarat	500	565.47	549.00
7.	Integrated Inland Cage Culture in Bhadar Reservoir, Gujarat	1000	1130.94	1098.00
8.	Demonstration and Validation of Cage Aquaculture in BudhiGandak River and Birauli Maun of Samastipur District in Bihar by RPCAU	24	74.00	7.40
9.	Brackishwater Cage culture (500 units) at Sindhudurg District in Maharashtra	500	722.03	361.015

G. Other New Farming Technologies

1. Demonstration of pond culture technology for Orange spotted grouper and Indian pompano in salt affected areas by CMFRI

With the financial assistance of NFDB, ICAR-CMFRI Vishakhapatnam Centre has taken up Pond Demonstration of Indian Pompano in low saline affected water. During 2019-20, NFDB released Rs. 26.01 lakh for continuation of the program. This project aims to demonstrate the potential to culture Indian Pompano and Orange spotted grouper in inland saline water with salinity ranges from 12-15 ppt in Krishna





and West Godavari districts, Andhra Pradesh. 12 ponds of 1 Acre each were envisaged to be demonstrated with 6 ponds of Indian pompano and 6 ponds of Orange-spotted grouper. At the end of the demonstration, the package of practices will be developed and given to farmers for best aquaculture practices. The project has been successfully completed with Indian Pompano and Orange spotted grouper culture in low saline waters followed by successful harvest of the pond cultured Indian pompano which was sold for an amount of Rs. 3.5 lakh (@Rs.330/kg) by the beneficiary BandiSunilkumar, Bhavadevarapalli, Nagayalanka, Krishna District, Andhra Pradesh.

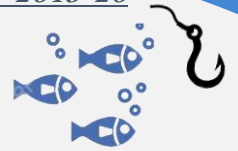


Pond harvest for Indian Pompano and Orange Spotted grouper

2. Establishment of Aquaponics unit at KVK Sikkal, Nagapattinam by TNJFU

TNJFU through NFDB financial support of 50% has established an Aquaponics Unit for Tilapia culture in an area of 500 m² and stocked with GIFT Tilapia (Chitralada strain). For completion of the project, NFDB released Rs. 3.2 lakh during 2019-20. The set up was completed and is used for training to students and farmers for culture practice in Aquaponics and for helping young entrepreneurs to venture into small scale livelihood alternatives.





3. Standardization and Demonstration of Monosex Tilapia in pond culture at Bihar

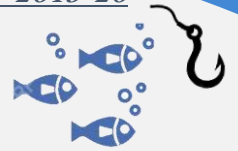
The College of Fisheries, Rajendra Prasad Agricultural University, Pusa, Bihar proposed for Standardization and Demonstration of monosex Tilapia culture in freshwater pond with 100% financial assistance from NFDB. During 2019-20, a sum of Rs. 7 lakh was released for the same. The Pond Renovation and De siltation of old pond in 3 Acre area has been completed. The ponds were cleared of weeds, dykes repaired and the ponds are ready for stocking.



4. Technology demonstration unit of Azolla as feed supplement to GIFT Tilapia

NFDB has funded “Technology demonstration unit of Azolla as feed supplement to GIFT Tilapia at TNJFU Campus by TNJFU” at 50% of the project cost. During 2019-20, NFDB released Rs. 1.5 lakh for completion of the project. Under the project, the institute constructed 2 Green House Construction and Azolla culture bed of 10 nos. for the “Demonstration unit of Azolla” as Feed supplement to GIFT Tilapia. The project on Azolla came up with a scientific conclusion that 15% azolla inclusion as supplementary fish feed ingredient is giving the best result as fish feed in terms of growth, digestive enzyme activities and antioxidant enzyme activities for Semi-intensive culture of GIFT tilapia.





5. Dissemination of minor carp production technology and its refinement for greater adaptability by the aquaculture farmers

NFDB provided 100% financial assistance to ICAR-CIFA for dissemination of Minor Carp Production technology which includes species like *Labeocalbasu*, *L. fimbriatus*, *L. goniuis*, *L. bata*, *Cirrhinus mrigala*, *Osteobrahma belangeri*, *Puntius gonoiatus*, *P. sarana* etc. Renovation of 53 ponds covering 13.52 Ha area was Completed. A total of 46 numbers of progressive farmers were selected from 4 different regions in Odisha and orientation training on scientific fish farming was provided. Two FRP Hatcheries were established at two sites (Baripada and Baliapal) and induced breeding was demonstrated. The seed of minor carp were supplied to the farmers.



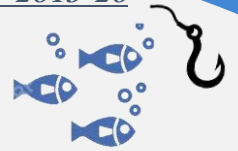
6. Demonstration of Efficacy of Carp Brood Stock Diet “CIFABROOD™” in increasing quality seed production of Indian Major Carps in selected states of India

With the financial assistance of NFDB, ICAR-CIFA have undertaken “Demonstration mode for Carp Brood Stock Diet CIFABROOD™” to provide a readily acceptable and



adequately nutrient rich diet to the brood stock of Indian Major Carps in selected hatcheries. CIFABROOD™ Feed has been supplied to 36 hatcheries in 7 states and the spawn production and survival was found comparatively higher in the CIFABROOD™ fed fish.





7. Up scaling and Demonstration of Nursery and Grow Out Carp Feeds

NFDB provided 100% financial assistance to ICAR-CIFA for Up scaling and Demonstration of Nursery and Grow Out Carp Feeds. The performance of nursery feed from spawn to fry was successfully demonstrated in three states involving private farms in the states of Odisha, West Bengal and Chhattisgarh. The experiment showed that, the survival percentage of fish was 20 percent higher and growth rate was 1.5- 2.0 times of the existing method of feeding. The demonstration experiment was simultaneously conducted in five locations of Odisha i.e. State Fishery Farm, Keonjhar, College of Fisheries, Rangailunda (OUAT); Berhampur; KVK, OUAT, Ranital, Bhadrak; ICAR-CIFA, Bhubaneswar and Sahu Fish Farm, Subarnapur, Gop, Puri during the 2nd phase (fry to fingerling). The performance of Carp starter feed was successfully demonstrated in six multi-locational trials involving private and Govt. farms of Odisha. The experiment showed that, the survival percentage of carp fry was 25 percent higher and growth rate was 1.5- 2.0 times of the existing method of feeding.

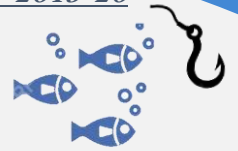


Grow out Carp Feed developed by CIFA



Sampling Harvest after one month of feeding with Carp Grow out feed





8. Capacity Building of Knowledge Intermediaries and Primary Stakeholders in Fresh Water Aquaculture through Virtual Learning

NFDB provided 100% financial assistance to ICAR-CIFA for Virtual Learning Approach. Content collection for Capacity Building of Knowledge Intermediaries and Primary Stakeholders in Fresh Water Aquaculture and storyboard development for the different modules was undertaken with the close guidance of the domain experts. Storyboard under different stages of development and video footages for the essential culture operations were recorded on a regular basis. The major thrust has been given to create a database of all the stakeholders in the freshwater aquaculture sector. A comprehensive database of the community radio station networks in the country was created.





II.6. Promotion of Small-Scale Fisheries

A. Fisheries Development in Aspirational District

With the budget approval of Rs.10.0 Crore in the 32nd Executive Committee for Fisheries Development in the Aspirational districts, 117 districts were identified as aspirational districts in the country with an aim to raise the living standards of its citizens and to ensure inclusive growth for all especially backward classes. Under this programme, “Technology Adaptation by Fish farmers for Fisheries Development in Aspirational Districts by providing input cost for two consecutive crops” will be taken up in the selected districts. Till date, 39 aspirational districts from 13 states have proposed under this activity covering an area of 237.066 ha. An amount of 102.17 lakh has been sanctioned and Rs.100.20 lakh has been released against the said activity.

Further, for development of Aspirational Districts, NFDB has selected 50 Aspirational districts from 26 states to take up fisheries development in the potential water bodies available in these districts on a pilot basis. In this regard, a model action plan has been prepared for 50 districts from all the states of the country to enhance the Fisheries Production and overall Development of Aspirational Districts. Selected Blue Revolution Schemes depending upon the potentiality and water resource availability of the concerned States/districts has been communicated to the States for implementation of the Model Action Plan. In continuation to this, proposals were received from only 03 states of Himachal Pradesh, J&K and Uttarakhand, wherein a total amount of Rs. 52.91 lakh has been sanctioned and Rs.12.55 lakh has been released under this Model Action Plan.





Table: State wise details and amount released by NFDB

State	Amount Released (Rs in lakh)	No. of Districts	Area (ha)	No. of beneficiaries
Andhra Pradesh	24.48	3	68.0	1386
Chhattisgarh	46.93	9	29.45	72
Himachal Pradesh	0.07	1	0.07	1
Madhya Pradesh	13.67	8	31.722	14
Manipur	4.17	1	5.0	177
Meghalaya	10.80	1	12.0	16
Mizoram	18.00	1	10.0	7
Nagaland	8.10	1	10.0	34
Rajasthan	5.85	1	6.5	10
Uttarakhand	0.67	2	1.23	3
Maharashtra	8.39	2	12.48	153
Uttar Pradesh	20.86	8	30.614	38
Tripura	16.99	1	20.0	26
Grand Total	178.98	39	237.07	1937

B. Implementation of Pilot project on Ornamental Fisheries

NFDB envisages a cluster approach to encourage captive breeding and rearing for the overall development of ornamental fisheries in the country. NFDB extended financial and technical support in developing 19 such clusters in 8 States. A sum of Rs. 2.7 cr has been released by NFDB during 2019-20 for continuation of the program. The project has effectively added value to the traditional ornamental rearing practices by integrating different units in the cluster mode and has also assisted the beneficiaries in having assured input and output linkages.





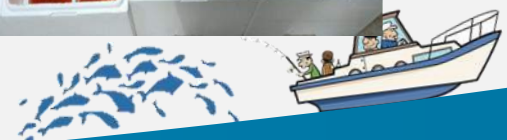
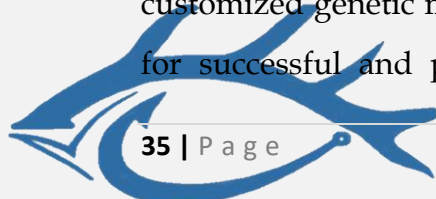
Table: State wise details on Ornamental Fish Pilot Project

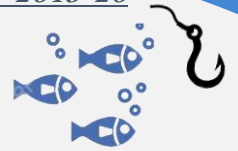
State	Project	Amount Released Rs in lakh
Andhra Pradesh	Cluster development of freshwater ornamental fish farming at Kurnool, AP	8.67
State	Project	Amount Released Rs in lakh
Assam	Implementation of Pilot project on Ornamental Fisheries at Assam	125.99
Bihar	Implementation of Pilot project on Ornamental Fisheries at Bihar	40.12
Karnataka	Implementation of Pilot project on Ornamental Fisheries at Karnataka	38.16
West Bengal	Establishment of Cluster Demonstration units of Freshwater Ornamental Fish Farming at South 24 Parganas, West Bengal for Ornamental Fish Production	25.56
Chhattisgarh	Promotion of ornamental fisheries through cluster approach for sustainable livelihood of fishermen at Raipur, Chhatisghah	18.23

C. Cold Water Fisheries and Aquaculture

1. Importing Genetically Improved Eyed Ova of Rainbow Trout from Denmark

Farming of Trout under low volume culture systems in raceways is gaining focus in the hilly region. Commercial culture of Trout is popular with improved strains of Rainbow Trout (*Oncorhynchus mykiss*) in States like Jammu & Kashmir and Himachal Pradesh. In order to provide superior, customized genetic material on a competitive basis for successful and prosperous Trout production,





NFDB extended financial assistance to Himachal Pradesh for import of genetically improved strain of Rainbow Trout at eyed ova stage from Aquasearch firm, Denmark. AquaSearch breeding structure is based on five breeding farms each representing different strains to ensure genetic diversity and maintain a back-up of the genetic material. During the financial year 2019-20, NFDB provided financial assistance of Rs.6.48 lakh to Himachal Pradesh. A total number of 5.0 lakh eyed ova was imported for further hatching and rearing.

2. Development of Anantnag as Trout District

Rainbow Trout farming has developed into a vibrant model in Kashmir valley. Anantnag district of Kashmir is regarded most potential district of cold-water fisheries due to its vast water resources feasible for trout culture. Realizing the potential of the Anantnag district, NFDB accorded financial assistance to DoF, Jammu and Kashmir to develop the Anantnag as Trout district via boosting expansion, basic infrastructure development and up gradation of existing infrastructure facilities like Trout hatcheries, Raceways, Trout farms, etc. both in private and government sector. During 2019-20, NFDB released Rs. 34.99 lakh for completion of the project.

D. Integrated Paddy-cum-Fish Culture

1. Apatani Tribal Women of Ziro Valley, Arunachal Pradesh (Apatani Tribal SHG)

With a view to push integrated fisheries activities in northeast region, NFDB funded paddy cum fish culture project at Ziro valley of Arunachal Pradesh, wherein a dedicated 20 women self help group of Apatani Tribe were selected as beneficiaries. The project was implemented on a unified model comprising of capacity building program, hatchery, transport vehicle, brood stock ponds, nursery rearing pond and culture of carp fingerling in paddy field as grow out pond.



Under the project 12.8 ha. of paddy field were transformed and converted for co-culture of paddy with fish. Harvested live fish were mostly sold out locally during annual music festival organised every year at the





Ziro valley. This provided the ample opportunity for marketing in village its self. The transport vehicle helped the women of self-help group to transport the fresh harvest to the cities which fetches higher price.

2. By Tungjoy Village at Manipur

The agriculture farmers of Poumaitribals in Tungjoy village have taken up paddy cum fish culture in 5 ha area in their paddy fields by renovating the fields and creation of central refuge ponds. All the 20 farmers were trained and fish (common carp and grass carp) seeds were stocked for culture.

3. Project at 14 Districts of Arunachal Pradesh

Based on paddy cum fish culture project of Ziro valley in Arunachal Pradesh, it was realized the there is lots of potential for promotion of the paddy cum fish culture in



Arunachal Pradesh. Existing vast area of paddy field in the Arunachal Pradesh invited DoF Arunachal Pradesh for utilization of these lands for fish culture, under which 14 different highly potential districts of Arunachal Pradesh were identified, covering an area of 44 ha for paddy cum fish culture. Under this project,

87 no. of beneficiaries were benefited. The paddy cum fish culture practice helped the farmers in increasing crop yield from same unit area, along with hike in income generation with little modifications from the paddy field through fish production.

Table: Details of the projects

Organisation	Project	Amount Released (Rs in lakh)	Area in Ha	No. of Beneficiaries
DoF, Arunachal Pradesh	Innovative Paddy-cum-fish culture by women self-help group at Ziro,,Arunachal Pradesh	9.15	12.8	20
DoF, Manipur	Integrated paddy cum fish culture for clusters of farmers at Senapati	7.13	5	20





DoF, Arunachal Pradesh	Paddy-cum-fish culture in 15 different districts in 44 ha area	4.27	44	87
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II.7. Provision of Alternative Livelihood

A. Development of Wetlands for Fisheries and Aquaculture

In India, ICAR-Central Inland Fisheries Research Institute developed the techniques for fish culture in flood plain wetland. The program was first sanctioned in 2017-18 on a pilot basis to ICAR-CIFRI for development of 4 beels in Bihar State namely Majharia, Kararia, Sirsa and Rulhi in 390 ha. Based on the success of the Pilot projects, another 4 beels were added in 2018-19 for up scaling the programme: one beel (Kothia of 60 ha area) in Bihar through ICAR-CIFRI, Rupaibali Beel of 92 ha through Assam Fisheries Development Corporation (AFDC) at Nalban, and Goltalabeel of 275 ha in West Bengal through State Fisheries Development Corporation (SFDC).

The projects are implemented in an integrated mode which includes awareness programs and capacity building, renovation of embankments, de-weeding, stock enhancement, fabrication and installation of pen and cage, construction of a carp hatchery and rearing ponds near the embankment, provision of craft and gear for fishing, fish transport vehicles with cold chain facilities, etc.

Beneficiary Covered: -

- Bihar-4 wetland Project : 635 nos.
- Bihar-Kothiamoun : 180 nos.
- SFDC, west Bengal : 2900nos

Area Covered: -

- Bihar-4 wetland Project : 390 Ha
- Bihar-Kothiamoun : 96 Ha
- SFDC, west Bengal : 275 Ha

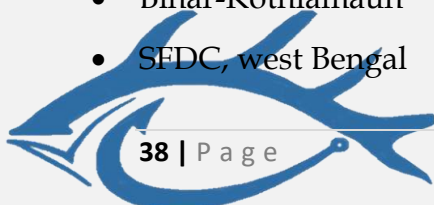




Table: Details of the wetland project

Amount Rs. in Lakh					
Implementing Agency	No. of Beels	Area (Ha)	Name of the Beels	No. of Beneficiaries	Amount Released in 2019-20
ICAR-CIFRI	4	390	Majharia, Kararia, Sirsa & Rulhi	635	27.17
ICAR-CIFRI	1	60	Kothia	59	26.54
AFDC-Assam	1	92	Rupaibali	51	13.58
SFDC- West Bengal	2	275	Nalban & Goltala	2900	-

B. Farming of Seaweed in the Coastal Waters

Seaweed cultivation is considered as one of the priority areas for fisheries development in India, for the benefit of coastal fisher folk, especially the fisherwomen. NFDB in collaboration with CSMCRI have started large-scale cultivation of *Gracilaria dura* along Simar coast of Gujarat by 162 farmers in 400 tube nets/longlines of 25m length and cultivation of *G.edulis* and *Kappaphycusalvarezii* along Ramanathapuram coast of Tamil Nadu on 6800 rafts (3 m x 3m) through 170 SHG groups (510 women) at 40 rafts/cluster for 3 fisherwomen. Beneficiaries were identified by the Department of Fisheries, Govt. of Tamil Nadu.

Under the project "Mass seedling production of *Kappaphycusalvarezii* through tissue culture technique and supply of tissue cultured seedlings to the farmers of Tamil Nadu coast" taken up by CSIR-CSMCRI Regional Research Centre, Mandapam, the institute conducted a training on *K. alvarezii* rafts culture, preparation of explants and induction of tissues from explants during 01.02.2020 and 02.02.2020 and is now on process for construction of tissue





culture laboratory. Micropropagation of *K. alvarezii* is done with production of about 14,000 sterile explants which are being cultured for seedling. Out of 14,000 explants produced, 621 explants produced shoots and grown well and have been transferred to big jars for culture with more nutrients for achieving faster growth rate.

Table: Details of the seaweed projects

Implementing Agency	Project	Amount Released Rs. in lakh
CSIR- CSMCRI, Bhavnagar, Gujarat	"Farming of red Seaweed <i>Gracilaria dura</i> on Gujarat Coast for promoting inclusive economic growth in Coastal rural settings"	60.456
CSIR-CSMCRI Mandapam	NFDB- Seaweeds- Mass seedling production of <i>Kappaphycusalvarezii</i> through tissue culture technique and supply of tissue cultured seedlings to the farmers of Tamil Nadu coast	17.36

C. Sea Cage Fish Farming at Tamil Nadu

With the financial assistance of NFDB, ICAR-CMFRI Mandapam, Tamil Nadu Regional Centre has taken up 100 cages for extensive demonstration of marine finfishes along the territorial waters of coastal States/UTs special at Palk Bay and Gulf of Mannar Region. During 2019-20, NFDB released Rs. 2.06 cr to CMFRI and until now Forty cages are installed.



Tamil Nadu Dr. J. Jayalalithaa Fisheries University (TNJFU) has taken up 100 sea cages for Open sea cage culture of marine finfish along the coast of Ramanathapuram District, Tamil Nadu. 20 cages are installed and culture is ongoing with Silver Pompano.





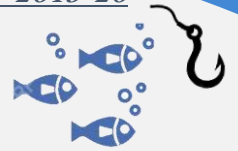
II.8. Skill Up gradation of Stakeholders in the Fisheries Sector

A. Conducting Training and Workshops

The National Fisheries Development Board (NFDB), Department of Fisheries, Govt. of India have laid emphasis on the HRD and extension aspects. The modules for training have been worked out keeping in view the specific needs of different target groups with focus on the job creation and performance requirements. The target groups for training include functionaries of the Department of Fisheries and all Quasi-Govt. Organizations such as Fisheries Corporations/ Federations, besides fishers/ farmers/ entrepreneurs, etc.

Institutional Partners for Skill Development: Keeping in view the broad spectrum of the training needs, a range of Institutions within and outside the fisheries discipline are required to meet the growing skill needs of the sector. The Institutions where the trainings are presently being conducted include Central Institutes like ICAR- Central Marine Fisheries Research Institute (CMFRI), ICAR-Central Institute of Fisheries Education (CIFE), National Bureau of Fish Genetic Resources (NBFGR), Central Institute of Fisheries Technology (CIFT), Directorate of Cold Water Fisheries Research (DCFR), Central Institute of Freshwater Aquaculture (CIFA), Central Institute of Fisheries, Nautical and Engineering Training (CIFNET), Central Salt and Marine Chemical Research Institute (CSMCRI), Central Inland Fisheries Research Institutions (CIFRI) etc., State Fisheries Departments, Krishi Vigyan Kendras (KVKs), Cochin University of Science and Technology (CUSAT), National Institute of Agricultural Extension Management (MANAGE), Agriculture Skill Council of India (ASCI), Marine Products Exports Development Authority (MPEDA-NETFISH), National Federation of Fishermen's Cooperatives Limited (FISHCOPFED), DoF-NIFPHATT, DoF-FSI, various State Agricultural and Fisheries Universities presides colleges etc.





1) Skill Development Programmes (SKD)

The programmes are designed for 3 days targeting about 50 participants per batch at a cost of Rs. 1.25 lakh per batch. The various topics which these programmes encapsulate are: Open Sea Cage Culture, Backyard RAS, Cryopreservation, Fish Seed Production, Hatchery Management, Hygienic Handling, and Fish Quality Testing, Cold Water Fisheries, Inland Cage Culture, Wetland Fisheries Development, Quality Seed Network and Dissemination of seed of Improved Varieties etc. In the year 2019-20, a total no. of 228 SKD programmes were conducted and 11678 no. of beneficiaries were trained.

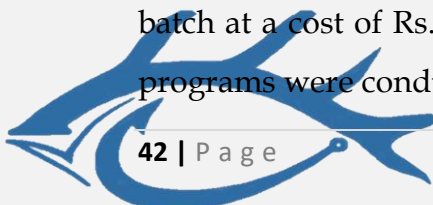


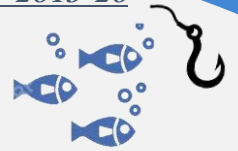
2) Training of Trainers (ToTs)

It is essential to build a cadre of Master Trainers for carrying forward the task of HRD in fisheries sector. Such master trainers would be picked up from the DoF/CoF of the States/ UTs/Fisheries Corporations/ State Agriculture Universities/ KVKs/ NGOs etc.



The master trainers were selected / handpicked through regional assessment by evaluating the criteria like technical background, Training aptitude, communication skills, Team work and leadership qualities, etc. The selection process is being handled by ICAR Fisheries Research Institutions such as CIFT, NBFGR, CIFNET, CSMCRI, CIBA, CIFA, CIFRI, DCFR, and Universities/KVKs, DoF/CoFs and State Level Fisheries Institutes. The ToT Programme is designed for 5 days with 25 participants per batch at a cost of Rs. 2.0 Lakh per batch. During the year 2019-20, 31 such programs were conducted for the benefit of 750 trainers.





3) Long Duration Skill Development Programmes as per ASCI-QPs

Agriculture Skill Council of India (ASCI), National Skill Development Corporation (NSDC), Ministry of Skill Development and Entrepreneurship, Govt. of India have identified several activities of fisheries sector as important skill development activities for employment generation and development of sustainable livelihood in India. The ASCI has listed several fields that are named as “Job Roles” for skill development in the various fields. Further, in order to bring uniformity in skill development trainings at national level, the ASCI have developed Qualification Packs (QP) as “National operational Standards” (NOS) for every identified Job Role. Moreover, these training programmes can only be conducted by those organizations that are registered as “Training Partners” with ASCI and having trainers that are certified

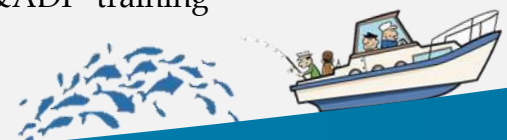


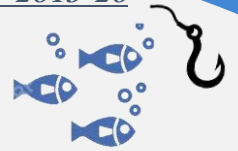
by NSDC. The duration of these programmes is 25 days with 25 targeted participants per batch, and at a cost of Rs. 6.00 lakh and 9.00 lakh per batch. During the year 2019-20, one such program was conducted.

In addition to the above, various other programmes such as Training-cum-Workshop on Project Preparation & Appraisal, one day training programmes for boat owners on Square Mesh Cod Ends by MPEDA- NETFISH, On board training on Tuna Long Lining and Processing by DoF-CIFNET, Workshops and Awareness programs etc., are also conducted by NFDB.

4) Aqua Clinics & Aqua-preneurship Development Programmes (AC&ADP):

Aqua Clinics and Aqua-preneurship Development Programme is a 4 week duration training programme undertaken at cost of Rs. 13.50 lakh per program targeting about 30 participants per batch. NFDB through National Institute of Agricultural Extension Management (MANAGE), Rajendranagar, Hyderabad, a pioneer in the field of Agricultural Extension has envisaged AC&ADP training





programmes (on the lines of Agri Clinic & Agripreneurship) for the qualified Fisheries, Aquaculture, Marine Biology and Biological Sciences and Diploma holders in Fisheries and allied sectors.

For carrying out training programmes, MANAGE identified Nodal Training Institutes (NTIs) in 17 States of the country having potential in fish farming. AC&ADP training programme structured for four weeks duration has residential classroom sessions and field visits to existing Aqua Clinics during the training periods. After completion of the training programme, MANAGE will provide handholding support to successful trainees to establish an Aqua Clinic or Aqua One Center under NFDB projects, in their respective places of choice. The trained Aquapreneurs will support fish farmers through Aqua Clinic/ Aqua One Center (AOC) by providing advisory services on fish farming, lab testing of soil, water and disease diagnosis, consultancy, technical guidance and also provide required input such as seed feed, etc. Under AC & ADP training programmes 404 Aquapreneurs were trained during the year 2019-20.

5) Awareness Workshops & Seminars

NFDB in collaboration with various institutes conducted 50 One-day Workshop/Seminar for 1760 trainees and 7 no. of 11-15 days training programmes entitled "On-Board Handling of Tuna" for 139 fishermen.





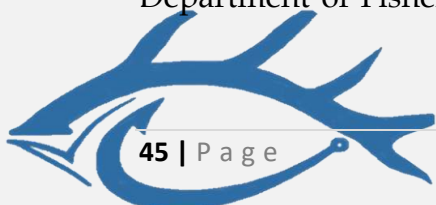
NFDB has funded 330 of Training programs at a cost of Rs. 487.72 lakh imparting training to about 14,756 beneficiaries during the F.Y 2019 – 20.

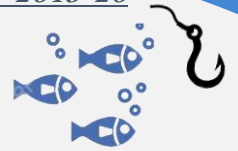
The details of the projects are as given below:

Sl. No.	Category of HRD Programmes	Duration	No. of Programs	No. of Individuals Trained	Amount Released (Rs. In lakh)
1	Skill Development / Capacity Building @ 50 trainees/batch	3 days	228	11678	286.08
2	Agriculture Skill Council of India (ASCI) Qualification Packs @ 25 trainees/batch	25 days	1	25	6.0
3	Aqua Clinics & Aquapreneurship Development Programme (AC&ADP) @ 30 trainees/batch	4 weeks	13	404	100.0
4	Workshop/Seminar @ 100 trainees/batch	1 day	50	1760	21.91
5	TOT (Training of Trainers) @ 25 trainees/batch	5 days	31	750	58.15
6	On-Board Tuna Training	11-15 days	7	139	15.58
TOTAL			330	14756	487.72

6). Training-cum-Workshop on Project Preparation and Appraisal

NFDB experienced that most of the proposals submitted under Blue Revolution Schemes have limitation of formulation, understanding of project and project cycle concepts and key indicators that are quantifiable. In order to achieve the anticipated success of different schemes of Government of India, the project proposals need to be formulated professionally, scrutinized and screened at the initial level itself by State Department of Fisheries/NFDB) and appraised appropriately prior to the





approval and financial sanctions. Such of those projects selected for implementation only then truly become the vehicle for the envisaged development.

In back drop of this, National Fisheries Development Board (NFDB) in collaboration with the Professional Fisheries and Agricultural Consultancy, Bangalore (PFAC) organized a three-day Training cum workshop on “Project Preparation and Appraisal” for officers involved in project



preparation and appraisal of State Fisheries and NFDB. Altogether eight programs were organized targeting training officers of State Fisheries Department and NFDB during the month of May-September, 2019. Under the training, 113 officers were trained under the program covering 21 states/UTs and NFDB.

7) Awareness Building Workshop on Trout farming in India

An Awareness building workshop was conducted from 26.2.2020 to 28.02.2020 at Himachal Pradesh in consultation with two Trout experts from Denmark as resource persons, namely Mr. Peder Neilson of NC Consulting APS and Mr. Torben Neilson, CEO, Ora Aqua Search, Denmark for demonstration and training in latest technologies adopted in Denmark for Rainbow Trout farming in India. A total number of 64 fishers/farmers and officials, from all the Himalayan states participated in the workshop. On 24th Feb, 2020 discussion was held in New Delhi with the Secretary (Fisheries) and Senior Officials with the Danish Experts on the way forward for development of Trout Fisheries in India. A visit to Trout farms and hatcheries at Kullu District, Himachal Pradesh was also arranged on 25th Feb, 2020 with the Danish Experts and other higher officials of fisheries and NFDB to review the status of Trout Fish farming and Trout Seed Production in Private sector as well as in Public sector.





8. International Events, Training and Exposure visits

(i) International Training on “Frontier Aquaculture Technologies” in Israel

The programme on “Frontier Aquaculture Technologies’ a tailor-made study visit for senior professionals from India was attended by a 10 member team lead by Shri Sagar Mehra, Joint Secretary (Fisheries), GoI during 18-23 May, 2019 in Israel.

(ii) Training-cum-exposure visit on “Frontier Technologies Aquaculture & Post Harvest” at Thailand & Vietnam in August, 2019

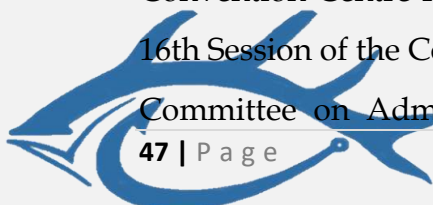
A team of 10 officers comprising of 4 from NFDB and 6 from States attended the program conducted by Asian Institute of Technology (AIT), during 05th to 18th Aug, 2019. The program was sponsored by NFDB with sponsorship covering flight fare (economy), training fees, local transport for field visits in Thailand and Vietnam, accommodation and food expenses.

(iii) Dan Fish International Expo, 2019, Aalborg City, Denmark

National Fisheries Development Board participated in the expo at Aalborg Kongres&Kulture centre, Denmark. The stall was set up in a 16sqm area highlighting status of Indian fisheries sector in the world, which showed the possibility of the advances in fisheries sector in India made by reputed firms in the field of nets, trawl boats, ropes, wires, engines, marine Electronics, navigation and communication equipment, conveyors, life-saving equipment, and much, much more. Indian delegates undertook field visit from 9.10.2019 to 11.10.2019 to aquaculture farms, post-harvest processing industries and feed industry in the Aalborg and nearby areas for better understanding of the new technologies and collaboration possibilities.

(iv) Indian Ocean Tuna Commission (IOTC) - 23rd Session

The 23rd Session of the Indian Ocean Tuna Commission (IOTC) was hosted by the Government of India, Ministry of Fisheries, Animal Husbandry & Dairying at Novotel Convention Centre Hotel, Hyderabad, India, from 17 to 21 June 2019. The 16th Session of the Compliance Committee, the 16th Session of the Standing Committee on Administration and Finance and the 3rd Session of the





Technical Committee on Management Procedures were also held in conjunction with the Commission Meeting from 9th to 16th June, 2019. The meetings were attended by delegates from 32 countries. The National Fisheries Development Board organised the above event.

B.NationalFish Festivals

To popularize fish consumption, 'Fish Festivals' are organized at National level and State level in different parts of the country to campaign and create awareness among consumers by exhibiting preparation of different fish menu and showcasing various ready to cook and ready to eat value added fish products. The total area earmarked for organizing the fish festival would be about 2500 m². NFDB is extending financial assistance to the States/UTs for conducting State-level Fish Festival of 1-3 days duration. The unit cost for conducting Fish Festival is Rs. 8.98 lakh for 10 cuisine stalls, Rs.17.16 lakh for 20 cuisine stalls and low-cost event at Rs.3.50 lakh with 10 stalls. The fish cuisine stalls are set up by renowned private Restaurant/Hotel Chains, Govt. Undertakings, in which different varieties of fish and seafood, ready-to-eat and ready-to-cook, fish/prawn/shellfish items were prepared and served to the visiting public.

During 2019-20, 7 National Fish Festivals were organized, out of which 2 festivals were independent with NFDB and 5 fish festivals were organized in collaboration with State Fisheries Departments/Institutes/Organizations. These Fish Festivals created awareness among the public on the nutritional and medicinal values of fish in the diet as well as promoted domestic marketing of fish and value added fish products, ensuring remunerative prices to the producers.





Table: Fish Festivals Conducted During 2019-20

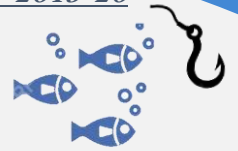
Sl.No	Particulars	Place	Duration
A Organized by NFDB			
1	A 3-day Fish Festival	People’s Plaza, Necklace Road, Hyderabad, Telangana	7 th to 9 th June, 2019
2	A 3-day Fish Festival	Sashtri Ground, R.S. Puram, Coimbatore, Tamil Nadu	26 th to 28 th July, 2019
B Organized by States/UTs			
1	A 3-day Fish Festival	YMCA grounds, Royapettah, Chennai, Tamil Nadu	18 th to 20 th October, 2019
2	A 5-day Fish Food Festival during 17 th Rural Technology and Crafts Mela	NIRD-RTP, Hyderabad	29 th Nov. to 3 rd December, 2019
3	A 3-day Fish Festival	International Fair Ground Hapania, Agartala, Tripura	13 th to 15 th December, 2019
4	A 3-day Fish Festival (Bengal Fish Fest)	Nalban Food Park, Kolkata, West Bengal	10 th to 12 th January, 2020
5	A 3-day Fish Festival	NTR Stadium (Telangana Kala Bharathi), Hyderabad, Telangana	28 th Feb. to 1 st March, 2020

C. Events, Workshops & Conferences

NFDB organized different events during 2019-20. National Fish Farmers Day, World Fisheries Day was observed. NFDB also sponsored five workshops organised by various agencies.

(i) National Fish Farmers Day: The National Fish Farmers Day (10th July) was observed by the NFDB; on this occasion a technical workshop was organized at the National Fisheries Development Board, Hyderabad which was inaugurated by the CE-NFDB and Commissioner of Fisheries from the Govt. of Telangana attended as a chief guest. State Fisheries Department Officials, Fishery Entrepreneurs and Fish farmers from the states of Telangana, Andhra Pradesh, Maharashtra and Karnataka participated in the event. On this occasion, 10 awards were given for





excellence in fisheries. Awardees were felicitated with a shawl, certificate, citation, memento and cash award.

(ii) World Fisheries Day: Every year 21st November is celebrated all over the world as World Fisheries Day. The celebrations serve to focus on changing the way the world manages global fisheries to ensure sustainable stocks and healthy ecosystems. NFDB has been celebrating World fisheries Day since 2014.

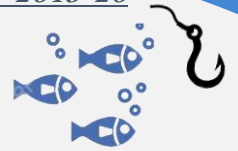
This year World fisheries Day was celebrated at A.P. Shinde Symposium Hall, NASC Complex, Pusa, New Delhi. Shri Giriraj Singh, Hon'ble Union Minister for Fisheries,

Animal Husbandry and Dairying was the Chief Guest of the event, while Shri Dr. Sanjeev Kumar Balyan, Hon'ble Minister of State for Fisheries, Animal Husbandry and Dairying and Shri Pratap Chandra Sarangi, Hon'ble Minister of State



for Fisheries, Animal Husbandry were the Guests of Honour. The dignitaries inaugurated the exhibition showcasing the technological advances made and development achieved in Fisheries Sector in the country. Different Publications on fisheries were released by the dignitaries. On the occasion, in different categories 18 no. of awards given to the outstanding fish farmers on this day in recognition of their accomplishments in innovation, development and adoption of improved technologies and practices in fish farming.



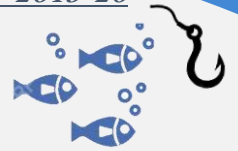


(iii) Workshops & Conferences Sponsored: NFDB has provided financial assistance for conducting various workshops and conferences at different parts of the country for boosting the fisheries production. In the FY 2019-20, the following five workshops were sponsored by NFDB:

Table: Details of the Workshops & Conferences Sponsored

Sl.	Implementing Agency	Particulars	Place	Duration
1	MPEDA	Aqua Aquaria 2019	HITEX Exhibition Center, Hyderabad, Telangana	30 th Aug to 1 st September, 2019
2	National Cooperative Development Corporation, Delhi	India International Cooperatives Trade Fair (IICTF), 2019	Pragati Maidan, New Delhi	11 th to 13 th October, 2019
3	Central University of Haryana	60 th Annual Conference of Association of Microbiologists of India (AMI-2019)	Central University of Haryana	15 th to 18 th November, 2019
4	CSIR-CSMCRI & Indian Chamber of Commerce (ICC)	3 rd International Seaweed Expo & Summit	NIOT, Chennai, Tamil Nadu	30 th to 31 st January, 2020
5	MPEDA	22 nd India International Seafood Show	Lulu Bolgatty International Convention Center, Kochi, Kerala	07 th to 09 th February, 2020

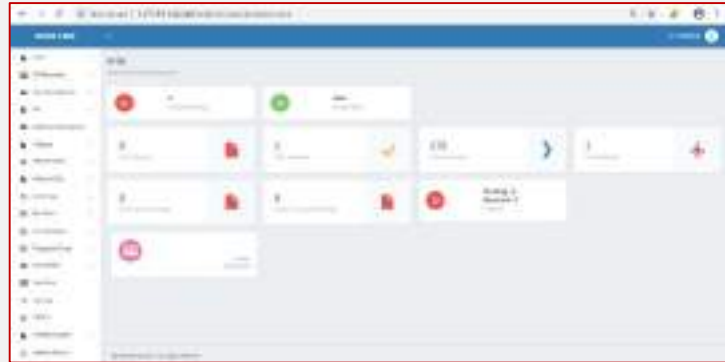




II.9. Monitoring, Control & Surveillance and Other Need Based interventions

A. E-Governance Programmes

(i) File Monitoring System (FMS): In order to support e-governance by ushering in an effective and transparent intra-organization processes rendering a simplified, responsive, effective and transparent working, a software “File Monitoring System (FMS)” was developed. The FMS because of its unique designed structure facilitates to encapsulate and integrate the independent functions and systems under a single domain.

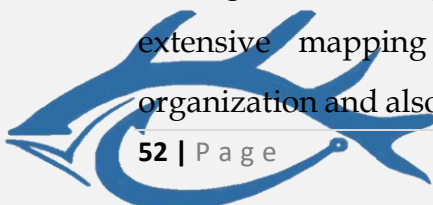


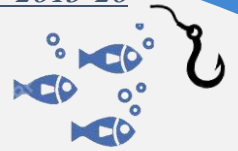
The FMS is being used by the Technical, Administration and Finance Staff extensively for processing all the files and correspondences digitally. The File Monitoring System (FMS) is upgraded with the incorporation of different modules such as Project Module, Bill payment Module, Tour module etc., with specific objectives and functionality.

(ii) Capacity Building Management System (CBMS)

Extension has been the weakest link in the development and modernization of the fisheries sector in India. Recognizing the importance of focusing on extension, the resultant training need assessment and the Human Resource Development (HRD) at all levels including at the field and farmers level, NFDB has laid adequate focus on the HRD and extension aspects. One of the significant objectives of the Board *inter alia* emphasizes on extensive training of fish farmers, entrepreneurs, fisher women etc., in the fisheries sector through various capacity building programmes.

NFDB developed application software for the process optimization and for managing the capacity building activities of the organization. The CBMS module has been designed and developed on a Model, View and Controller information architecture with good user experience and prescribed formats. CBMS facilitates extensive mapping of HRD programmes being advocated by the organization and also provides a platform for the Implementing Agencies to





submit their project proposals electronically. The CBMS will be put to use from the financial year 2020-21.

(iii) MeraMastyaDhan (MMD): The Web Portal and Mobile App of MeraMastyaDhan(MMD) for monitoring and evaluation of Blue Revolution Schemes on

a single platform was developed in collaboration with NICSI. State/District Fisheries Officers were trained on the operation and use of the Portal/App. Beneficiaries can apply and raise query related to

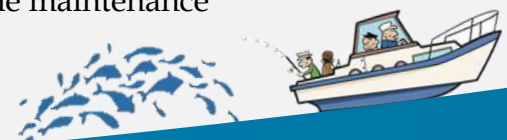


BR Schemes. So far, details of 2093 beneficiaries of BR schemes are uploaded in the portal by different states.

(iv) Collaboration with Telangana State Technology Services Limited (TSTS)

NFDB has been in the forefront in implementing the schemes and projects for fisheries and aquaculture development under the Blue Revolution to enhance the fish production and productivity in an integrated and holistic manner. In order serve the community in a more efficient and transparency manner, during the last couple of years, NFDB has endeavoured to procure, update and develop several hardware peripherals and software applications such as File Monitoring System; CBMS, NFDB website, Aqua One Center Management System, Lab Management, Data Dashboards, FMPIS Project Monitoring Module, Beneficiary Module etc.,

In addition to the above NFDB is equipped with high end configured Servers to host the above software along with desktop computers, laptops, printers, scanners, multifunctional devices etc., with the high end software/applications and hardware peripherals in place it is imminent that the entire software and hardware peripherals are to be maintained by a firm/agency having high end technical competence. In line with the above, NFDB has been collaborating with TSTS, a State Government institute in providing the assistance in the maintenance





of software and hardware peripherals. The contract for an amount of Rs. 49.68 lakh per annum payable to TSTS, will be valid for three years starting from February 2020. TSTS enlisted the firm NBOS to render the services to NFDB, on its behalf under its guidance and monitoring.

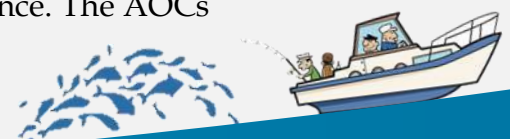
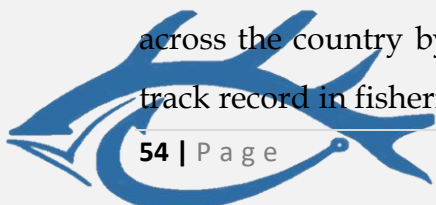
(v) Fish Market and Price Information System (FMPIS): Integrated software for Fish Market and Price Information System (FMPIS) in collaboration with ICAR-CMFRI, for accessing updated fish prices at various markets across the country under e-governance projects has been developed. NFDB has started Fish Market and Price Information Scheme (FMPIS) on pilot basis in 6 States/UT's (Telangana, Maharashtra, Andhra Pradesh, Kerala, Tamil Nadu and Puducherry) and covered 81 markets. The implementation of pilot mode was carried out successfully and the reports received were all positive. It is proposed to expand the FMPIS by covering 1500 markets throughout the country on phased manner.

Table: Details of the E-Governance projects

Project	Amount Released (Rs. in Lakh)
Design, Development & ERP based application for Capacity Building Management system for HRD Division	12.79
Fish Market Price Information System (FMPIS)-Remuneration to enumerators	2.63
Maintenance of IT Infrastructure and Application of NFDB	49.68

B. Setting up of Aqua One Centre for providing ICT enabled aquaculture support services

NFDB implemented Aqua One Center project to promote, support and pursue dissemination activities through a network of “Aqua One Centers (AOCs)” to be established as a Special Purpose Vehicle (SPV) at different strategic locations across the country by involving reputed Service Providers having proven track record in fisheries development and technical competence. The AOCs





provides Information & Communication Technology (ICT)-enabled Aquaculture Support Service to the Fish Farmers, disseminate newer technologies and innovations and facilitate their wider adoption for the sector’s growth; this complemented the existing Fisheries Extension System in the Country.

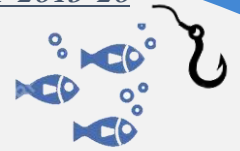
NFDB sanctioned 66 AOCs in 15 States i.e., Andhra Pradesh, Telangana, Odisha, West Bengal, Karnataka, Bihar, Tripura, Manipur, Tamil Nadu, Haryana, Kerala, Madhya Pradesh & Sikkim, Gujarat, Maharashtra. During 2019-20, NFDB also released Rs. 6.69 cr to 12 Firms for continuation of the program. In 2019-20, 12 AOC Firms have distributed fish seed to 745 grow-out farmers/seed growers with a total pond area of 564.50 ha. AOCs have created awareness about quality fish seed production and use of improved fish breed. AOCs also helped in establishment of e-traceability system through a network of ‘Multiplication Hatcheries, Fish Seed Growers and Fish Farmer’s for promoting seed production, rearing and farming of improved fish variety.



Table: Details of NFDB releases to AOCs in 2019-20

Implementing Agency	Amount Rs. in lakh	
	Released	State
M/s Agriwatch Ltd	6.14	Delhi
M/s Brihaspathi Technologies Pvt Ltd.	75.68	Telangana
M/s Tropical Aquaculture and Farming System (TAFS)	4.12	Rajasthan
M/s Rambabu Aqua Lab	4.00	Andhra Pradesh
MANAGE, Hyderabad	426.00	Telangana
M/s Preeti	5.74	Karnataka
M/s Green Biotech Ltd	4.50	Manipur





M/s Information and inputs for Sustainable Aquaculture (IIFSA)	10.91	Andhra Pradesh
Implementing Agency	Released	State
M/s SPACOS	4.00	Karnataka
M/s Rural Eco-Development Centre (REDC)	4.00	West Bengal
M/s StampIT Business Solution	89.96	Telangana
M/s I Support Farming Pvt Ltd	34.01	Tamil Nadu

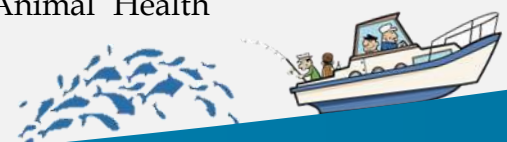
C. Establishment of Facilities for Quality Management in Fisheries Sector

(i) Expansion of Aquatic Quarantine Facility under MPEDA

Aquatic Quarantine Facility at Chennai, the first of its kind in the country, is funded by NFDB and established by MPEDA-RGCA to ensure the SPF status of imported brood stock of shrimp *Litopenaeus vannamei*. Six additional cubicles are being constructed. During the current year such that the cumulative capacity increases to accommodate 7, 33,400 nos. of brood stock to support the growing demand of *L. vannamei* seed and ensure sustained development of shrimp aquaculture in the country. In order to meet out the growing demand of *L.vannamei* seed by the shrimp farmers and as represented by the hatchery operators, the MPEDA/RGCA, which run the AQF submitted the proposal for the expansion of the AQF with addition of 6 more cubicles at an estimated cost of Rs. 500 lakh.

With the approval of Dept. of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying, Govt. of India, NFDB sanctioned and released the Rs.500 lakh towards construction of 6 cubicles with the required support system in the existing vacant area of AQF, Neelankarai, Chennai so as to increase its capacity. As proposed by MPEDA based on the escalation in the cost estimate for civil works due to revision in the SoR and for the procurement of machinery and equipment, an additional sanction of Rs 230 lakh is issued by NFDB.

(ii) Aquatic Animal Health Laboratories (AAHL): Under the National Fish Quality Management Network Programme, 11 Aquatic Animal Health





Laboratories (AAHLs) were sanctioned in 6 states. The Project cost of Rs. 6.50 crore was allocated in the Annual Action plan 2019-20. Aquatic Animal Health Labs aims to provide diagnostic support services to aqua farming community for effective disease diagnosis and pond health management. The AAH Labs will be supporting as focal centres for providing feeding information on disease outbreak to NSPAAD programme.

Amount Rs. in lakh

Project	Implementing Agencies	Sanctioned Units	Sanctioned Amount	Released Amount
Aquatic Animal Health Laboratory	11	11	650	278

Table: Details of NFDB releases to AAHLs in 2019-20

Sl.	Agency/Firm	Released amount Rs. in lakh
1	Amazing Biotech Pvt. Villupuram, Tamil Nadu	13.11
2	Microl Remedies, Mythri Nagar, Hyderabad, Telangana	11.08
3	For U International Pvt. Ltd, Visakhapatnam, AP	13.18
4	KN Bio Sciences India Pvt. Ltd., Hyderabad, Telangana	20.91
5	StampIT Business Solutions, Hyderabad, Telangana	19.22
6	Bio-Artis Lab Facility, Hyderabad, Telangana	21.60
7	Green Biotech Eco solutions Pvt. Ltd. Imphal, Manipur	27.55
8	College of Fisheries, Raha, Nagoan, Assam	46.20
9	State Institute of Fisheries Technology, Andhra Pradesh	26.42
10	Brihaspati Technologies, Telangana	20.96
11	College of Fisheries, CAU, Tripura	58.36





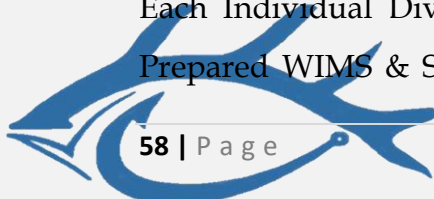
(iii) Aquatic Animal Health & Quality Testing Laboratory (AAH&QTL)

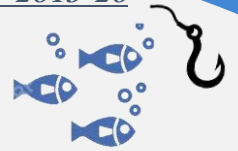
at NFDB Campus: Aquatic Animal Health and Quality Testing Laboratory (AAH&QTL) was set up at NFDB Hyderabad to test the quality of Aquaculture Inputs and to monitor the health of Aquatic organisms, the lab will also help in meeting National and International commitments. The lab will analyze the samples received from fish farmers; hatchery operators, processing industry, markets and other stakeholders and to provide diagnostic services to farmers following standards laboratory protocols. The AAH&QTL aims to benefit aquaculture farmers of the country by testing the Quality of Specific Pathogen Free (SPF) seed, diagnosis of diseases of Aquatic animals and test the quality of Aquaculture produce for presence of antibiotic and pesticide residues. The laboratory also has facilities for water, soil and feed quality analysis.

NFDB's Aquatic Animal Health and Quality Testing Laboratory (AAH&QTL) was inaugurated by Shri Giriraj Singh, Hon'ble Union Minister for Fisheries, Animal Husbandry & Dairying Government of India on **07th September, 2019** at NFDB campus, Hyderabad. Aquatic Animal Health and Quality Testing Laboratory is committed to cutting edge molecular diagnostics and residual testing, by introducing the most advanced and comprehensive techniques for the benefit of the aquaculture farmers, who rely on accurate diagnosis and effective quality testing of fish and fishery products. The referral lab is recognized by the Coastal Aquaculture Authority as **"National Referral Laboratory of CAA for Aquaculture"** to test the samples referred under the Coastal Aquaculture Authority Act.



Each Individual Division in this Lab identified Testing Parameters and Prepared WIMS & SOP Prepared as per NABL Guidelines. The unit has





divisions for Molecular Biology, Micro Biology, Residual Testing, Feed, Water & Soil Analysis.

Equipment:



MOU with other Organizations:

- MOU has been signed between CAA and NFDB; as per this MOU NFDB-AAH & QTL is recognized as a National Testing Lab by CAA
- NFDB laboratory has signed Material Transfer Agreement with ICAR-NBFGR, Lucknow for getting positive controls for WSSV, IHNV, & EHP pathogens
- NFDB has signed Material Transfer Agreement with NFFBB





Services offered by AAH &QTL:

Division	Major Tests
Molecular Biology	<ul style="list-style-type: none"> ➤ Quantitative & Qualitative Analysis of all OIE listed Shrimp Disease i.e. WSD, AHPND/EMS, IHHN, IMN, NHP, WTD, TS, YHD, <i>Aphanomyces astaci</i>. ➤ To detect the emerging shrimp diseases in India like EHP which is acting as major threat to shrimp farming ➤ Fish BAR Coding ➤ Sequencing ➤ Microbial Identification
Micro Biology	<ul style="list-style-type: none"> ➤ Identification and characterization of all microorganism Bacteria, Fungus, Yeast and Moulds by culture, microscopy and biochemical analysis ➤ Microbial identification of microorganisms by PCR method ➤ Total Aerobic & Anaerobic plate count ➤ Bacteriological composition analysis of Aqua-products, Feed and Probiotics ➤ Total bacteriological count for water sample ➤ Detection of Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA) in seafood ➤ Antibiotic susceptibility test ➤ Shrimp, prawn and fish health analysis
Residual Analysis	<ul style="list-style-type: none"> ➤ Antibiotic Residue Testing: Chloramphenicol, Nitrofurans metabolites, Tetracyclines and epimers, Aflatoxins, Histamine, Nitro Imidazole's ➤ Pesticide Residue Testing: Organo chlorine pesticides, Polychlorinated biphenyls ➤ Heavy metals: Chemical elements (Cd, Pb, Hg, As)
Feed, Water & Soil (FWS) Testing	<ul style="list-style-type: none"> ➤ Water Quality Parameters: pH, Total Hardness, Alkalinity, Turbidity, Ammonia, Dissolved Oxygen, Nitrate, Nitrite, Phosphate, Chlorine ➤ Soil Quality Parameter: Soil Organic Carbon, Soil pH, Soil Nitrogen, Soil Phosphate ➤ Proximate analysis: Protein, Fat, Fibre, Moisture, Total Nitrogen, Ash.



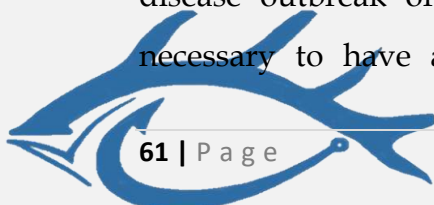


Table: Test Conducted & Results:

Name of Division	No of Samples Tested
Molecular Biology	<ul style="list-style-type: none"> 53 Tests for 3 parameters were conducted for samples received from CAA The lab is in process of procuring chemicals/consumables.
Micro Biology	<ul style="list-style-type: none"> The lab is nearing completion.
Residual Testing	<ul style="list-style-type: none"> Test could not be conducted due to non-availability of Chemicals, Certified Reference Materials and Critical analysis instruments such as LC MS/MS, GC MS/MS and ICPMS.
Feed, Water and Soil	<ul style="list-style-type: none"> 1 test for 10 parameters for sample received from SIKH Regiment, Mehdipatnam. Chemical requirements for the smooth operation of the Lab are being procured.

(iv) Establishment of Aquatic Animal Health and Environment Management Laboratory at CIFE-Rohtak Centre.

The CIFE Rohtak centre undertakes research in developing suitable technologies for degraded salt affected inland areas through aquaculture using underground saline water. On-Farm demonstrations and demand driven training programs are also conducted for state fisheries personnel, fish farmers, entrepreneurs and NGOs. Rohtak Centre of ICAR-CIFE has successfully field demonstrated the technology for the marine shrimp culture in inland saline affected areas. The centre is committed to refine the technology and conduct the need based and area specific demonstration of various aquaculture technologies in the Haryana, Punjab, Rajasthan, Delhi and Utter Pradesh. In order to reduce the chances of crop failure and consequent economic loss due to disease outbreak or due to unsuitable water quality parameters, it is necessary to have a well quipped lab facility. Establishment of fully





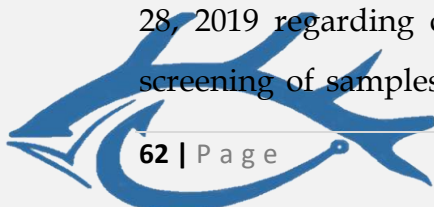
equipped lab facility will help to cater to the need of fish and shrimp farmers of the region and thereby contribute significantly towards the attainment of blue revolution goals. NFDB has funded 100% project cost for the project Aquatic Animal Health and Environment Management Laboratory established at CIFE-Rohtak Centre.

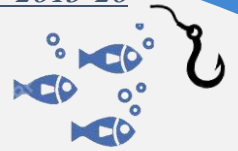
During 2019-20, NFDB released Rs. 28 lakh for its establishment and now the lab is fully furnished and operational. The Lab also includes Soil and water laboratory, Biotechnology Lab and Histopathology lab. This lab is helping farmers to diagnose and manage fish diseases and provide prophylactic measures to cure the disease which helps to alleviate fish mass mortality and helping farmer to get successful crops.

(v). National Surveillance Programme for Aquatic Animal Diseases (NSPAAD):

The DoF, Ministry of Fisheries, Animal Husbandry and Dairying, Government of India through NFDB has taken a new initiative in the form of National Surveillance Programme for Aquatic Animal Diseases (NSPAAD) Project at NBFGR, Lucknow and decided to introduce a regular programme of disease surveillance in the country. NSPAAD project is implemented in 20 states via involvement of 29 collaborated institutes. During FY 2019-20, four new centres, namely College of Fisheries, Ludhiana; College of Fisheries, Kwardha; Fish Farmer Training Centre, Department of Fisheries, Ranchi and Fisheries Research Station, P.V.N.R. Telangana Veterinary University were included for undertaking surveillance in Punjab, Chhattisgarh, Jharkhand and Telangana under NSPAAD.

During 2019-20, a sum of Rs. 2.97 cr has been released by NFDB to ICAR-NBFGR for carrying out the project. Total number of 92,851 samples were screened up to March 2019 under phase - I. Four officials from Aquatic Animal Health and Quality Testing (AAH & QT) Laboratory of National Fisheries Development Board (NFDB), Hyderabad were imparted a Hands-on Training Programme on 'Determination of Viral Load by Quantitative Real Time PCR in Aquatic Animals' at ICAR-NBFGR during February 24-28, 2020. One Quarantine Officer, AQCS (WR) was imparted training during June 24-28, 2019 regarding collection, preservation and dispatch of samples for screening of samples for aquatic animal pathogens and major diseases in





finfish and shellfish.

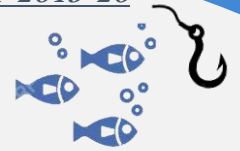
Under NSPAAD, the collaborating centres has organised 148 awareness programmes/meetings involving 3554 stakeholders. 13 training programmes were organised under the project to the state fisheries officials involving 470 participants to sensitize them with level I, II and III diagnosis. A total of 420 disease outbreaks were investigated and scientific advice was provided to fish farmers for disease management. Through the results, knowledge and experience earned under the project, Technical backstopping is provided to Ministry of Fisheries, Animal Husbandry and Dairying on different issues including declaration of aquatic animal health disease and to MPEDA regarding Organisational structure and responsibilities of the Competent Authority for disease surveillance. The program has completed the surveillance of OIE listed aquatic animal diseases of national concern and is at the stage of compiling the national database on aquatic animal disease.



III: SCRUTINY OF CSS- BR SCHEMES AND M&E



Fish Fact: Male bettas are devoted fathers, who build bubble nests for their young with their mouths and fiercely protect their babies from predators.



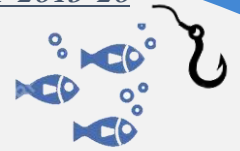
1. Scrutiny of BR projects

NFDB was entrusted with scrutinising and recommending project proposals to Dept. of Fisheries, Govt. of India and to carry out "Monitoring and Evaluation". During 2019-2020, 431 proposals were received from States/UTs and Institutes and scrutinised out of which 329 projects were recommended to the Dept. of Fisheries, Govt. of India for release of funds. State wise details of the proposals received, scrutinised and recommended by NFDB for FY 2019-20 are as below:

Table: Details of CSS-BR proposals received, scrutinised and recommended by NFDB for FY 2019-20

Sl.	States/ UTs	No. of DPRs scrutinised	DPRs Recommended	Amount in Rs. Lakh	
				TPC Recommended	Total Central Share with Admin Cost Recommended
1	A & N Islands	11	10	819.50	586.03
2	Andhra Pradesh	10	5	7100.00	3090.00
3	Arunachal Pradesh	12	10	442.60	266.55
4	Assam	6	5	2506.32	1488.23
5	Chhattisgarh	17	13	9448.91	2580.68
6	Delhi	2	0	0.00	0.00
7	Goa	5	3	35.40	10.26
8	Gujarat	2	2	11465.00	3091.24
9	Haryana	22	16	43546.50	11725.16
10	Himachal Pradesh	16	13	1369.20	832.76
11	Jammu & Kashmir	16	14	6272.50	5518.85
12	Jharkhand	4	2	1300.00	793.10
13	Karnataka	18	12	5502.52	1525.41
14	Kerala	8	4	2340.00	578.45
15	Lakshadweep	3	3	668.67	534.85
16	Maharashtra	16	13	9038.80	3286.77
17	Manipur	10	7	7329.00	3401.30
18	Meghalaya	16	11	3407.50	1911.32
19	Mizoram	31	30	2647.39	1781.25
20	Madhya Pradesh	21	17	5206.79	1670.23
21	Nagaland	19	13	6477.00	4567.66
22	Odisha	8	6	4854.00	1450.28
23	Puducherry	18	13	5324.91	5302.31



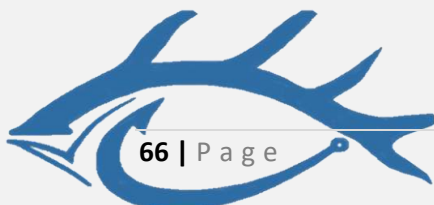


Sl.	States/ UTs	No. of DPRs scrutinised	DPRs Recommended	TPC Recommended	Total Central Share with Admin Cost Recommended
24	Punjab	5	5	4130.64	1034.42
25	Rajasthan	7	6	335.00	105.12
26	Sikkim	9	6	1373.00	781.25
27	Tamil Nadu	30	22	6533.30	2202.99
28	Telangana	14	12	8350.00	2200.33
29	Tripura	20	12	1118.00	751.76
30	Uttar Pradesh	21	20	15002.24	5012.23
31	Uttarakhand	14	11	851.35	352.06
32	West Bengal	20	13	1890.00	908.19
	Grand Total	431	329	176686.04	69341.01

2. Monitoring & Evaluation of Implementing projects

Monitoring and evaluation for CSS BR schemes of 2017-18 for the 12 states (Himachal Pradesh, Haryana, Chhattisgarh, Jharkhand, Madhya Pradesh, Rajasthan, Telangana, Uttarakhand, Karnataka, Gujarat, Tamil Nadu and Kerala) was assigned to M/s Agriwatch Indian Agribusiness System Limited (IASI).

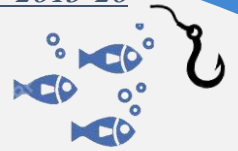
Monitoring and evolution of BR schemes of 2017-18 pertains to North eastern region was conducted by NFDB. Out of the 5 states where BR schemes were implemented, one team visited Manipur during 18th-23rd September 2019 and Tripura during 15th -19th October 2019 respectively. Another team visited Assam and Mizoram during 25-09-2019 to 05-10-2019. NFDB monitoring team also visited 16 demonstration units for Amur Carp under 4 KVKs (Imphal East, Imphal West, Ukhrul, Senapati) in Manipur state. Monitoring and Evaluation of Skill Development/HRD programmes funded by NFDB to various organizations/institutes during 2018-19 has been assigned to Agri-watch Indian Agribusiness System Limited (IASI) with the sanctioned amount of Rs. 20.99 lakh and Rs. 4.2 lakh was released during 2019-20.



IV: NFDB AWARDS IN FISHERIES & AQUACULTURE



Fish Fact: Common Carp, breaded and fried, is part of traditional Christmas Eve dinner in Slovakia, Poland and in the Czech Republic.



NFDB Awards in Fisheries & Aquaculture

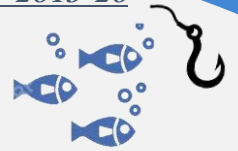
The National Fisheries Development Board (NFDB), under Department of Fisheries Ministry of Fisheries, Animal Husbandry and Dairying, Govt. of India, has institutionalized awards in seventeen categories to felicitate and honor fish farmers and fishers during Fish Farmers Day and World Fisheries Day in recognition of their accomplishments in innovation, development and adoption of improved technologies and practices in aquaculture and fisheries activities. Under each category, there are two awards (1st & 2nd position). The felicitation comes with Certificate of Recognition, Trophy, Shawl, Citation and Cash prize.











List of the Awardees, Category and State

68 | Page













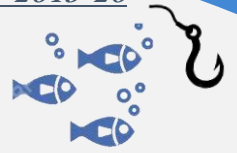
	<p>Shri Anil Rana</p> <p>Best Fish Farmer- Inland States First Position</p>	 <p>Himachal Pradesh</p>
	<p>Shri Sandeep Pardesi</p> <p>Best Fish Farmer Inland States Second Position</p>	 <p>Madhya Pradesh</p>
	<p>Shri. Prasanta Santra</p> <p>Best Fish Hatchery Inland States First Position</p>	 <p>Chhattisgarh</p>
	<p>Shri BairiPattabhi</p> <p>Best Fish Hatchery- Inland States Second Position</p>	 <p>Telangana</p>





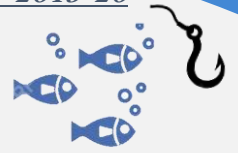
	<p>Shri. F.Laldingliana</p> <p>Best Fish Farmer- North-Eastern States First Position</p>	 <p>Mizoram</p>
	<p>Shri Ardhendu Debnath</p> <p>Best Fish Farmer- North Eastern States Second Position</p>	 <p>Tripura</p>
	<p>Shri Subhodh Das</p> <p>Best Fish Hatchery- North Eastern States First Position</p>	 <p>Tripura</p>
	<p>Shri KarimisettiSubba Rao</p> <p>Best Farmer - Diversified Aquaculture Activities First Position</p>	 <p>Telangana</p>













	<p>Shri Chapala Muttewararao</p> <p>Best Fish Farmer- Inland States Second Position</p>	 <p>Andhra Pradesh</p>
	<p>Shri S. Suryanarayana Reddy</p> <p>Best Shrimp Hatchery First Position</p>	 <p>Andhra Pradesh</p>
	<p>Hatchery Manager Matsyafed</p> <p>Best Shrimp Hatchery Second Position</p>	 <p>Kerala</p>
	<p>Shri. R. Ajith</p> <p>Best Brackishwater Shrimp/Fish Hatchery - Coastal States First Position</p>	 <p>Kerala</p>













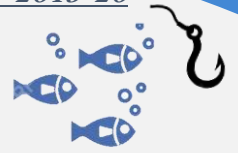
	<p>Shri. Ismail K. I</p> <p>Best Brackishwater Shrimp/Fish Hatchery - Coastal States Second Position</p>	 <p>Kerala</p>
	<p>Shri. Namburi Murthy Raju</p> <p>Best Fish Farmer-Coastal States First Position</p>	 <p>Andhra Pradesh</p>
	<p>Shri. Jerald</p> <p>Best Fish Farmer-Coastal States First Position</p>	 <p>Kerala</p>
	<p>Shri. Aiyappa .P. I.</p> <p>Best Ornamental Fish Farmer First Position</p>	 <p>Karnataka</p>





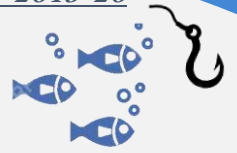
	<p>Shri. Sudeep Das Best Innovative Fish Farmer First Position</p>	 <p>Chhattisgarh</p>
	<p>Shri. Shivaraju Best Innovative Fish Farmer Second Position</p>	 <p>Karnataka</p>
	<p>Matsyafed Fish Market Best Retail Fish Market First Position</p>	 <p>Kerala</p>
	<p>Jampeta Fish Market Best Wholesale Fish Market First Position</p>	 <p>Andhra Pradesh</p>





	<p>Smt. Lisa Methew Best Backyard RAS Farmer First Position</p>	 <p>Kerala</p>
	<p>Smt. BeenaJohny Best Backyard Fish Farmer Second Position</p>	 <p>Kerala</p>
	<p>COFFED, Patna Best Aqua One Center First Position</p>	 <p>Bihar</p>
	<p>NaCSA, West Godavari Best Fish Farmer- Inland States Second Position</p>	 <p>Andhra Pradesh</p>





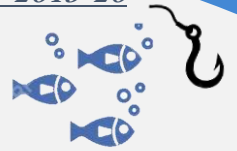
	<p>Nattika Engandiyur Co-operative Society</p> <p>Best Marine Fishermen Society First Position</p>	 <p>Kerala</p>
	<p>Suryachandra Fishermen Co-Operative Society</p> <p>Best Inland Fishermen Society First Position</p>	 <p>Andhra Pradesh</p>
	<p>Anjaneya Fisherwomen Co-Operative Society</p> <p>Best Fisherwomen Society/Women SHG First Position</p>	 <p>Andhra Pradesh</p>
	<p>Tukkaramgate Fisherwomen Co-Operative Society</p> <p>Best Fisherwomen Society/Women SHG Second Position</p>	 <p>Telangana</p>



V: NFDB PUBLICATIONS



Fish Fact: Rainbow Trout are indicators of water pollution because they can survive only in clean waters.



Aquaculture Technologies Implemented by NFDB released by Shri Giriraj Singh, Hon'ble Union Minister for Fisheries, Govt. of India on the occasion of World Fisheries Day 2019 at New Delhi



NFDB Hand Book for Fish Farmers released by Shri Giriraj Singh, Hon'ble Union Minister for Fisheries, Govt. of India on 7th September 2019 at NFDB Hyderabad



Brochures & Pamphlets on NFDB Implemented Projects:

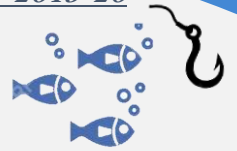
- Composite Fish Culture
- Shrimp Farming
- Biofloc Fish Farming
- Cage culture
- Backyard RAS
- Seaweed culture
- Paddy cum fish culture
- Aquaponic
- Fish Festival
- AquaOne Center



- ✓ Package of Practices for Breeding and Culture of Commercially Important Freshwater Fish Species

- ✓ National Fisheries Development Board: Ushering Blue Revolution in India





- ✓ NFDB-Fisheries Award Recipient Book
- ✓ NFDB Guidelines for Establishment of Fish Brood Bank
- ✓ Model DPR for Integrated RAS for Trout Culture
- ✓ Fisheries Award Nomination Recipient Book
- ✓ NFDB-Success Stories
- ✓ Template for Preparation of DPR for Fisheries Projects



VI: ADMINISTRATION & FINANCE



Fish Fact: Tilapia skin is a frugal and a promising innovative technique to treat patients with second- and third-degree burns.



1. Members of the Governing Body

1	Minister for Agriculture & Farmers Welfare, Government of India(Ex-Officio)	Chairman
2	Minister of State for Agriculture & Farmers Welfare, In-charge of Department of Fisheries, Government of India (Ex-Officio)	Vice-Chairman
3	Member (Agriculture), NITI Aayog, Government of India (Ex-Officio)	Member
4-34	Ministers in-charge of Fisheries of all States and Union Territories	Member
35	Secretary, Department of Fisheries, Government of India (Ex-Officio)	Member
36	Secretary, Department of Agriculture and Cooperation, Government of India(Ex-Officio)	Member
37	Secretary, Department of Agriculture Research and Education, Government of India(Ex-Officio)	Member
38	Secretary, Department of Commerce, Government of India(Ex-Officio)	Member
39	Secretary, Ministry of Food Processing Industries, Government of India (Ex-Officio)	Member
40	Secretary, Ministry of Panchayati Raj, Government of India (Ex-Officio)	Member
41	Chairman, Coastal Aquaculture Authority Chennai, Tamil Nadu(Ex-Officio)	Member
42	Chairman, NABARD, Mumbai (Ex-Officio)	Member
43	Joint Secretary, Department of Fisheries, Government of India (Ex-Officio)	Member
44	Chief Executive, NFDB, Hyderabad(Ex-Officio)	Member
45-53	Representatives (to nominate) from groups and associations of fish farmers, Fishing craft operators and exporters	Member



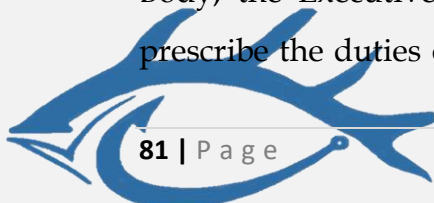


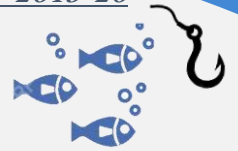
2. Members of the Executive Committee

1	Secretary, Department of Fisheries, Ministry of Fisheries, Animal Husbandry & Dairying, Government of India, New Delhi (Ex-Officio)	Chairman
2	Financial Advisor & Additional Secretary, Department of Animal Husbandry, Dairying & Fisheries, Government of India, New Delhi. (Ex-Officio)	Member
3	Advisor (Agriculture), Planning Commission, Government of India, New Delhi. (Ex-Officio)	Member
4	Joint Secretary, Department of Fisheries, Ministry of Fisheries, Animal Husbandry & Dairying, Government of India, New Delhi (Ex-Officio)	Member
5	Joint Secretary, Ministry of Food Processing Industries, Government of India, New Delhi. (Ex-Officio)	Member
6	Managing Director, NABARD, Mumbai. (Ex-Officio)	Member
7	Deputy Director General (Fisheries), ICAR, New Delhi. (Ex-Officio)	Member
8	Chairman, Marine Products Export, Development Authority (MPEDA), Kochi (Ex-Officio)	Member
9	Member Secretary, Coastal Aquaculture Authority Chennai (Ex-Officio)	Member
10-13	Four Secretaries in charge of Fisheries of State Government (Ex-Officio)	Member
14	Chief Executive, NFDB, Hyderabad (Ex-Officio)	Member-Secretary

3. Chief Executive of the Board

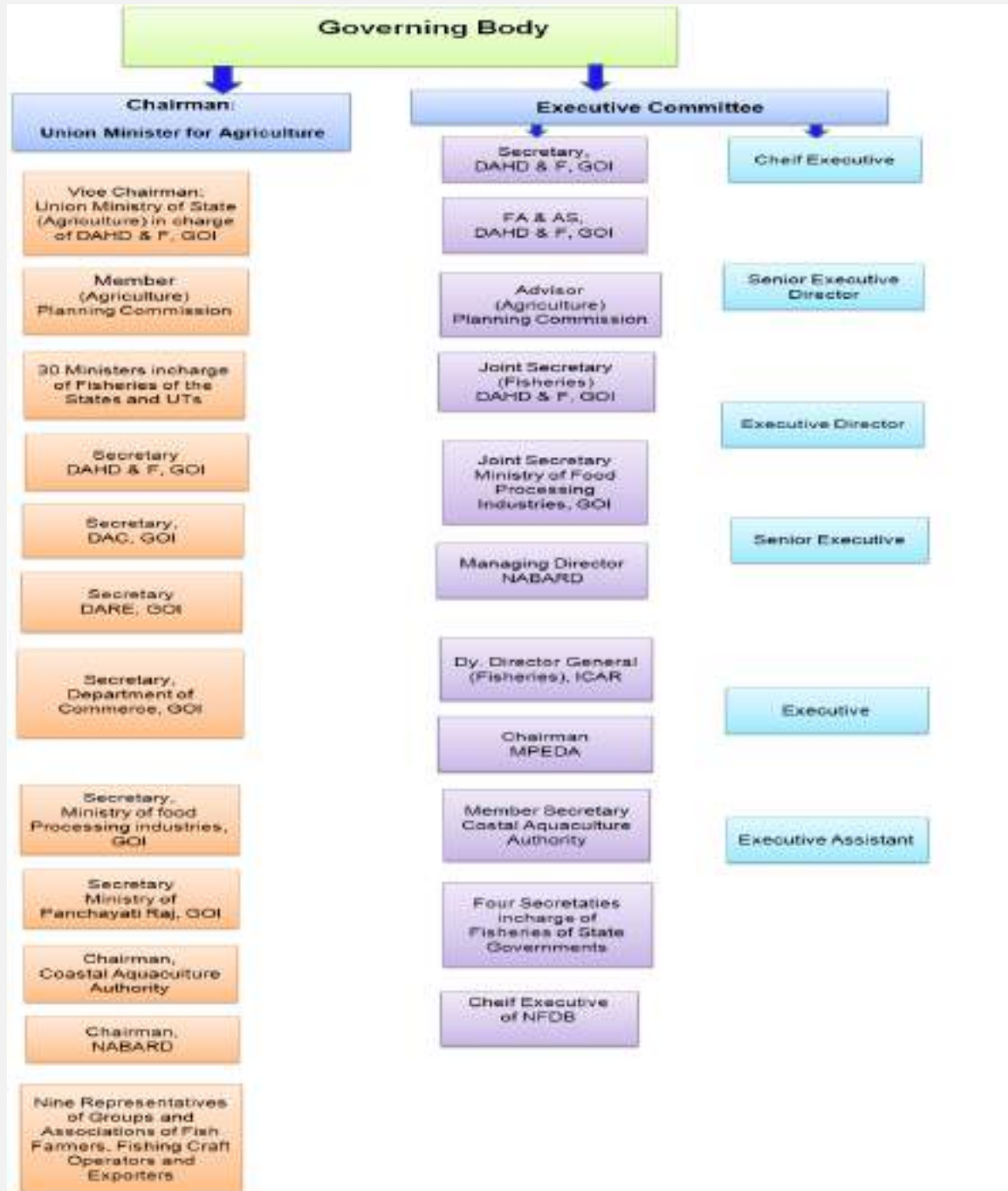
The Chief Executive is the Principal Executive Officer of the Board. The Chairman of the Governing Body of the Board with the previous approval of the Central Government will appoint the Chief Executive with the terms and conditions as specified by the Government. It shall be the duty of the Chief Executive to coordinate and exercise general supervision of overall activities of the Board and accountable to the Governing Body, the Executive Committee and the Central Government. He shall prescribe the duties of all officers and staff of the Board and shall exercise

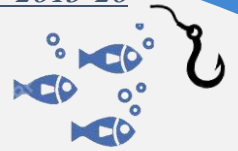




such supervision and disciplinary control as may be necessary in accordance with the rules.

4. Organisational Chart





5. NFDB Officers

S.N.	Name	Designation	From	To
01	Sri. Sagar Mehra	Chief Executive I/c	07.03.2020	Continuing
02	Smt. I. Rani Kumudini, IAS	Chief Executive	30.06.2017	02.03.2020
03	Shri. G. Rathinaraj	Executive Director (T)	30.08.2017	Continuing
04	Shri. G. Srinivas	Executive Director (F&A)	22.10.2018	Continuing
05	Smt. A. Dhanalakshmi	Executive Director (Tech)	04.09.2017	23.09.2019
06	Sri.A.B.Prakash	Executive Director (Infra)	11.07.2019	Continuing
07	Dr. Manne Persis	Senior Executive (T)	01.07.2014	30.06.2019
08	Shri. Vishwanatha T.S.	Senior Executive (T)	01.09.2017	30.09.2019
09	Shri. C.V.Ramana Murthy	Senior Executive (Infra)	07.09.2017	Continuing
10	Smt. R.S. Rajya Lakshmi	Senior Executive (T)	15.03.2018	Continuing
11	Dr Manas Kumar Sinha	Senior Executive (T)	11.10.2017	Continuing
12	Dr S. Prashanthi	Senior Executive (T)	08.03.2018	Continuing
13	Smt. S. Padmaja	Senior Executive (F&A)	14.03.2018	Continuing
14	Shri. G. Ramakrishna Rao	Senior Executive (T)	12.04.2018	Continuing
15	Smt. Dipmala Roy	Senior Executive (T)	13.08.2018	31.03.2020
16	Shri. M.J. Rajkumar	Senior Executive (T)	19.09.2018	18.09.2019
17	Shri. G.A. Rajakumar	Senior Executive(T)	01.07.2020	Continuing
18	Shri.P. Chalapati Rao	Senior Executive (Tech)	11.07.2019	Continuing
19	Dr. Sreekanth Sampath	Senior Executive (Tech)	21.02.2020	Continuing
20	Shri. E. Praveen	Executive (A&F)	16.03.2018	Continuing
21	Smt. V. Ramya Anoosha	Executive (A&F)	08.03.2018	25.01.2020
22	Smt. J. Deepa Suman	Executive (T)	31.07.2008	Continuing
23	Smt. A.V. Madhuri	Executive (T)	04.07.2008	Continuing
24	Shri. Amit Bhardwaj	Executive (T)	23.07.2008	Continuing
25	Shri. Ashim Kumar Borah	Executive Assistant (T)	14.07.2008	Continuing
26	Smt. Smiti Rekha Pati	Executive Assistant (T)	12.03.2010	Continuing
27	Ms. K. Bhargavi	Executive Assistant (T)	19.11.2010	Continuing
28	Shri. A. Mallikharjun	Executive Assistant (F&A)	03.05.2016	Continuing
29	Shri. Vipin Nautiyal	Executive Assistant (T)	18.05.2016	Continuing
30	Smt. Sreerenu Hariharan	Executive Assistant (T)	01.08.2016	Continuing
31	Ms. Dorothy, M.S.	Executive Assistant (T)	12.09.2016	Continuing
32	Shri. Kapil Parate	Executive Assistant (F&A)	02.07.2018	Continuing
33	Shri. Dipin, K. M.	Executive Assistant (T)	16.08.2018	Continuing
34	Smt. Seethalakshmi, S.	Executive Assistant (T)	17.08.2018	Continuing



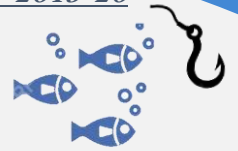


6. Right to Information Act

In the year 2019-20, NFDB has received 50 numbers of RTI applications via RTI online portal and by Post under the Right to Information act, 2005 for which the information was uploaded in the online portal of RTI and dispatched to the applicant by post. The details are as follows:

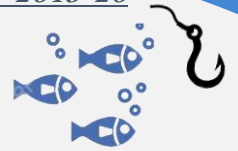
Sl.	Name of the applicant	Address of the applicant	Information sought	Online Regd. No./ Reference No. of RTI application received & Date of receipt.
1	Imran	Bundi, Rajasthan	Request for information regarding NFDB- Executives Assistant Exams	NFDBH/R/2019/50003 Dt.12.04.2019
2	MerigiSomunaidu	D.No.1-127, Mutyalammapalem village, Venkatapathipalem Post Vishakapatnam	Request for information regarding aquaculture development schemes	NFDBH/R/2019/50004 Dt.07.05.2019
3	Bharat S B	555/1 Near Omshakti Temple 6 th A cross, ChinnppanahalliM arathalli, Bangalore Karnataka	Request for support for project on Aquaponics	Inward no.1187, Dt.13.05.2019
4	Santosh Dalyan	1/7 Street No.3 Rani Garden, Behind AmbedkarParkm East Delhi	Request for total number of contractual appointments / employees in your organization	DOAHD/R/2019/50079/4, Dtd.12.04.2019
5	Imran Qureshi	309 Outside Sainyar Gate, Jhansi Uttar pradesh	Request for information regarding Re-circulatory Aquaculture	NFDBH/R/2019/50005, Dtd.19.05.2019





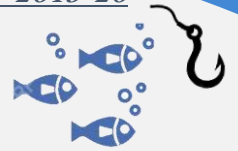
Sl.	Name of the applicant	Address of the applicant	Information sought	Online Regd. No./ Reference No. of RTI application received & Date of receipt.
6	Vishnu R.G	Avukulam, Chempazhanthy P.O, Thiruvananthapuram, Kerala	Request for information regarding freshwater fish farming	NFDBH/R/2019/50005, Dtd.19.05.2019
7	Mohammed YasimMohiyidheen	BarkkathManzil, Near Fibre Factory, Kavaratti Island, U.T of Lakshadweep	Request for information of BSc Aquaculture course conducting off campus mode by Calicut university	NFDBH/R/2019/50007, Dtd.23.08.2019
8	Rajkumar Jha	Barhampur village, phulparas	Information on Biofloc system	NFDBH/R/2019/50009 Dt.12.09.2019
9	Mantosh Kumar	University, Block-1, Rom No.203 Mohan Nagar, Lucknow	Request for posts reserved for the PwDs in various bodies of the GOI	NFDBH/R/2019/80002, Dtd.29.08.2019
10	M.Panduranga Rao	Amberpet, Hyderabad	Request for information of the post of Executive Assistant (Tech)	NFDBH/R/2019/80003, Dtd.03.09.2019
11	Ramesh Kumar	40, Hanuman Lane, 2 nd Floor, Baba Kharag Singh Marg, Connaught place, New Delhi	Request for who are the members of the Governing body of NFDB	dt.21.06.2019
12	Harinadh	Vijayawada (Urban) Krishna A.P	Information on subsidy and other incentives for setting up of hatchery. Share the model DPR with FM sketch and lay out	NFDBH/R/2019/50012 dt.22.09.2019
13	J.Sisira Reddy	Guntur	Information regarding hatchery set up and guidelines in Andhra Pradesh and Telangana	NFDBH/R/2018/50008 dt.12.09.2019





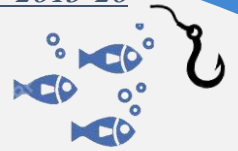
Sl.	Name of the applicant	Address of the applicant	Information sought	Online Regd. No./ Reference No. of RTI application received & Date of receipt.
14	Imran Qureshi	Jhansi, Uttar pradesh	Information of RAS System	NFDBH/R/2019/50 0013, Dtd.27.09.2019
15	Dr.Ashok Gupta	Rajasthan	Request - In post of Aquarium Assistant exist or not	Inward No.5572 Dt.30.09.2019
16	Srikanth Tatineni	Krishna dist. A.P	Request for information on RAS and Bio floc system	NFDBH/R/2019/50 017, Dtd.12.10.2019
17	Gurram Anil Kumar	Nethaji Nagar, Sangareddy	Request for information of Central Government life Insurance to Telangana PFCS registered members	NFDBH/R/2019/50 010, Dtd.19.09.2019
18	Dinesh	310, PanankuttiThoppu, Tanjavur Dist. Tamil Nadu	Request for Financial Assistance to purchase boat, Streamer	Inward No.5746 Dt.04.10.2019
19	Ravi Kumar	Tanjavur Dist. Tamil Nadu	Request for Financial Assistance to purchase boat, Streamer	Inward No.5745 Dt.04.10.2019
20	Manoharan	Tanjavur Dist. Tamil Nadu	Request for Financial Assistance to purchase boat, Streamer	Inward No.5747 Dt.04.10.2019
21	Shri Karthick	Tanjavur Dist. Tamil Nadu	Request for Financial Assistance to purchase boat, Streamer	Inward No.5748 Dt.04.10.2019
22	Haresh VeljiHumbal	Kutch Dist, Gujarat	Request for information on ban of Magur Fish	NFDBH/R/2019/50 014, Dt.27.09.2019
23	P.Saravanan	Tanjavur Dist. Tamil Nadu	Request for Financial Assistance to purchase boat, Streamer	Inward No.6149 Dt.18.10.2019





Sl.	Name of the applicant	Address of the applicant	Information sought	Online Regd. No./ Reference No. of RTI application received & Date of receipt.
24	Balamurugan	Tanjavur Dist. Tamil Nadu	Request for Financial Assistance to purchase boat, Streamer	Inward No.6319 Dt.24.10.2019
25	Madhavan	Tanjavur Dist. Tamil Nadu	Request for Financial Assistance to purchase boat, Streamer	Inward No.6152 Dt.18.10.2019
26	Manikandan	Tanjavur Dist. Tamil Nadu	Request for Financial Assistance to purchase boat, Streamer	Inward No.6150 Dt.18.10.2019
27	Neelakandan	Tanjavur Dist. Tamil Nadu	Request for Financial Assistance to purchase boat, Streamer	Inward No.6151 Dt.18.10.2019
28	Murugan	Tanjavur Dist. Tamil Nadu	Request for Financial Assistance to purchase boat, Streamer	Inward No.6153 Dt.18.10.2019
29	Senthil Kumar	Tanjavur Dist. Tamil Nadu	Request for Financial Assistance to purchase boat, Streamer	Inward No.6148 Dt.18.10.2019
30	M Panduranga Rao	Amberpet Hyd	Request for certified copies of recruitment of Executive Assistant	NFDBH/A/2019/60 003 Dt.27.10.2019
31	RahemulKhandaker	Near welcome bazar	Request for information on how to submit application for loan or subsidy	NFDBH/R/2019/50 0013, Dtd.27.09.2019
32	Ravi Kumar	Rayagada, Odisha	Request for information on NFDB Recruitment rules for the appointment of post of Senior Executive (Tech)	NFDBH/R/2019/80 004, Dtd.15.10.2019
33	D.Sathiyamoorthy	Thandrampattu, Tamil Nadu	All the details of this Aqua One Scheme and its nature	NFDBH/R/2019/50 015, Dtd.01.10.2019
34	Kaushik Patel	Karol Bagh Road Delhi	Request for list of all ED, ED incharges, SE and SE incharges in NFDB and their qualification	NFDBH/R/2019/50 011 Dt.22.09.2019





Sl.	Name of the applicant	Address of the applicant	Information sought	Online Regd. No./ Reference No. of RTI application received & Date of receipt.
35	B.Anusha	Kalavalapalli, A.P	Request for Aquazonation report of Andhra Pradesh	NFDBH/R/2019/50 018 Dt.31.10.2019
36	Rakesh Kumar Nishad	Gardanibagh, Patna	List of feed mills operated by different agencies in Bihar during the years 2016-17, 2017-18 & 2018-19	Inward NO. 6623 Dt.01.11.2019
37	Dr. Atul Kumar Jain	Udaipur, Rajasthan	Pilot Project on ornamental fisheries by NFDB	Inward NO. 7114 Dt.18.11.2019
38	N.Govindarajan	Thanjavaure, Tamil Nadu	Blue Revolution, Fisheries Infrastructure Development Fund and Kisan Credit Card	Inward No.6766 Dt.07.11.2019
39	Imran Qureshi	Jhansi	Request for information on RAS system	NFDBH/A/2019/60 002 Dt.06.10.2019
40	Gudaboina Sai Kumar	Uppal Hyderabad	Request for information on Blue revolution scheme	Inward No.8804 Dt.07.01.2020
41	Ningthoujam Sarat kumar Meitei	Moirangkampu, Manipur	Request for information on Bio floc fish farming	NFDBH/R/E/20/00 002 Dt.09.01.2020
42	M.Krushnaveni	Velpoor, Nizamabad	Request for information on AOC	Inward No.9284 Dt.24.01.2020
43	M.Krushnaveni	Velpoor, Nizamabad	Request for details of Lab Assistants and field Assistants	Inward No.9283 Dt.24.01.2020
44	Bhavini Srivastava	Jangpura Extension, Delhi	Request for copy of rules/regulations/notifications issued by Central Government	NFDBH/R/E/20/00 003 Dt.17.01.2020
45	Ramesh Agrawal	Raigarh, Chhattisgarh	Request for Biofloc system for Inland Culture	NFDBH/R/E/20/00 006 Dt.11.02.2020





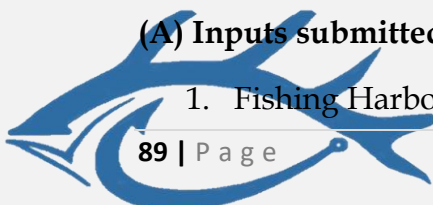
Sl.	Name of the applicant	Address of the applicant	Information sought	Online Regd. No./ Reference No. of RTI application received & Date of receipt.
46	Imran Qureshi	Jhansi	Request for details about RAS system	NFDBH/R/E/20/00004 Dt.21.01.2020
47	SatyawanKoli	Alibaug, Maharashtra	Request for list of all unofficial members in NFDB Governing Body	NFDBH/R/E/20/00005 Dt.05.02.2020
48	Amit Chugh	Gurgaon, Haryana	Request for information of NFDB Scheme on Bio floc system for Inland Culture	NFDBH/R/E/20/00007 Dt.25.02.2020
49	Amol UddavKhillare	Parbhani, Maharashtra	Request for information of Subsidy under the scheme of Blue Revolution for cage culture	NFDBH/R/E/20/00008 Dt.12.03.2020
50	Amol UddavKhillare	Parbhani, Maharashtra	Request for information of Subsidy under the scheme of Blue Revolution for cage culture	NFDBH/R/E/20/00009 Dt.12.03.2020
51	G.Narasimha Raju	Sangareddy	Fish Harvest from water bodies by the cooperative society	Inward No. 10571 Dt.17.03.2020
52	G.Narasimha Raju	Sangareddy	Supply of two wheelers for fish marketing in Telangana	Inward No. 10572 Dt.17.03.2020

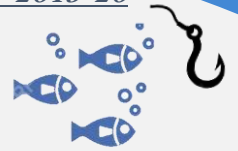
6. Parliamentary Question

In the year 2019-20, NFDB submitted draft reply/ answers to DoF for 31 Lok Sabha & 17 Rajya Sabha Questions on Fisheries Developmental Activities undertaken by the NFDB, pertaining to the following aspects:

(A) Inputs submitted to DoF on Lok Sabha Questions during 2019-20

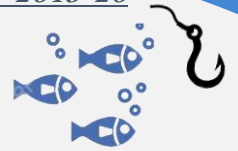
1. Fishing Harbours and Cold Storage





2. Production and export of marine and Aquaculture Products
3. Modernization of Thoothukudi Fishing Harbour
4. Encouraging Fisheries in Tamil Nadu
5. Improving Infrastructure of Fishing Ports
6. Setting up of small Fishing Harbour in Tamil Nadu
7. Vacant Posts in North Eastern States
8. Culture Fishing and Fishing Assistance
9. NFWF Schemes
10. Special plans to motivate persons engage in river/lake/pond fishing
11. Promotion of New Systems of Aquaculture
12. Schemes of Fisheries
13. Construction of Fishing Harbour
14. Fishing Harbours
15. Training to the Youth for Animal Husbandry and Pisciculture
16. Development of Fish Farming
17. Fisheries College
18. Blue Revolution
19. Traditional Fish Farming
20. Employment opportunities in Fisheries Industry
21. Development of Fisheries
22. Fish Production and consumption
23. Up gradation of Pisciculture Infrastructure
24. Schemes for Pisciculture
25. Remunerative Prices for Aqua Farmers
26. Promotion of Fisheries in Uttar Pradesh and Rajasthan
27. Rehabilitation of Nishad Community
28. Target of Blue Revolution





29. Insurance in Fisheries Sector
30. Promotion of Fisheries in Darbhanga
31. Cold Storage for Fish

(B) Inputs submitted to DADF on Rajya Sabha Questions during 2019-20

1. Development of Fishermen
2. Construction of Houses for Fishermen Community
3. Development and Inland Fisheries and Aquaculture
4. Fisheries and Dairy Development in Telangana
5. Death of Animal due to bite by Culicoides Fly
6. Creation of Infrastructure Facilities under FIDF
7. Funds for development of fisheries
8. Expenditure on welfare of cows
9. Skill Development in Fisheries Sector
10. Plan to Achieve targets of Blue Revolution Programme
11. Special plans to motivate persons engage in river/lake/pond fishing
12. Release of pending Subsidy amount to Odisha
13. Disease Prevention in Aquaculture
14. Sustainable Fishing Practices
15. Efforts to increase salt and fresh water Fish Farms
16. Insurance coverage in Fisheries Sector
17. Pending Approval of Fishing Harbours and Fish Landing Centers in Maharashtra





7. Year wise Budget Allocation

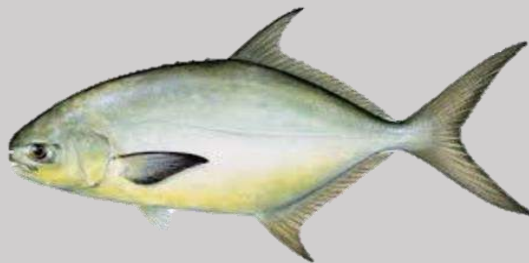
Status of funds received as grant from Government of India and utilized from inception of the Board is given below.

Amount Rs. in Lakh

Year	Grant in aid Received	Sanctioned Amount	No. of Projects sanctioned	Projects Completed	Projects Ongoing
2006-07	3000	259.17	18	18	0
2007-08	5000	2,371.23	175	173	2
2008-09	4690	7,891.38	150	148	2
2009-10	10000	11,230.58	147	143	4
2010-11	9230	14,705.80	255	213	42
2011-12	10800	19,545.97	279	228	51
2012-13	10681	18,484.52	268	229	39
2013-14	12416	15,782.78	383	332	51
2014-15	13760	6,873.76	445	365	80
2015-16	14868	3,395.72	192	116	76
2016-17	3239.03	3,902.22	234	75	159
2017-18	1600.52	2,315.57	108	19	89
2018-19	10261.7	8632.21	260	84	176
2019-20	8000.75	8000.75	204	62	142
Total	117547	123391.66	3118	2205	913



VII: NFDB PHOTO GALLERY

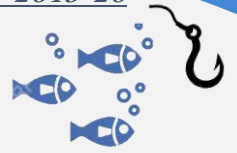


Fish Fact: The Silver Pompano, (*Trachinotus blochii*), also known as Snubnose Pompano or American Pomfret resembles the much sought-after Silver Pomfret (*Pampus argenteus*).



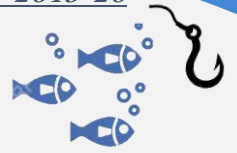
**Visit of Shri Giriraj Singh, Hon'ble Union Minister for Fisheries,
Animal Husbandry & Dairying Government of India on 07th September, 2019**





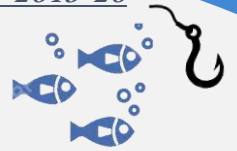
Visit of Shri Pratap Chandra Sarangi, Hon'ble Minister of State for Fisheries, Animal Husbandry & Dairying GoI on 14th November 2019





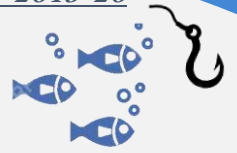
Visit of Ms. Rajni SekhriSibal, IAS, Secretary, Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying, GoI., on 13th February, 2020





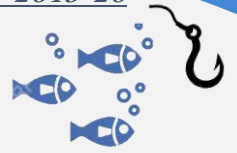
Celebration of World Fisheries Day on 21st November 2019 at NASC-Complex, New Delhi



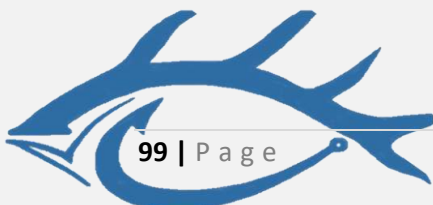


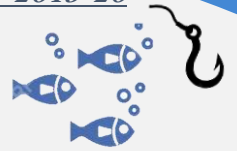
Celebration of National Fish Farmer's Day on 10th July 2019 at NFDB Campus, Hyderabad





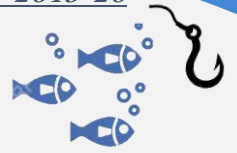
NFDB Organising Fish Festivals during 2019-20





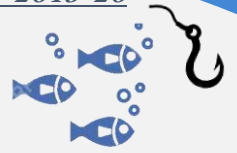
NFDB Organising Training cum Workshop on Project Preparation & Appraisal at Bangalore





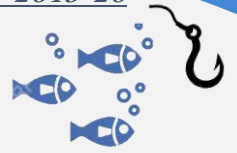
NFDB observing Independent Day on 15th August 2019





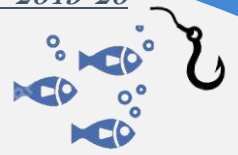
NFDB observing Republic Day on 26th of January 2020





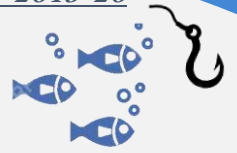
NFDB organising Indian Ocean Tuna Commission (IOTC) - 23rd Session at Hyderabad during 17th to 21st June 2019





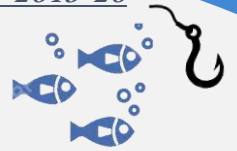
Aquaponic & RAS Unit at NFDB Campus





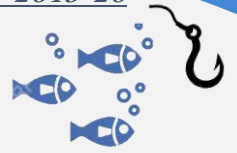
Farewell Event of Smt I Rani Kumudini, Chief Executive, NFDB





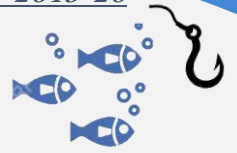
Demonstration Units at NFDB Campus, Hyderabad





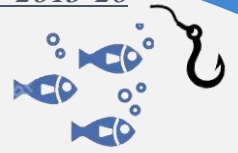
Demonstration Units at NFDB Campus, Hyderabad





Facilities and Activities at NFDB-NFFBB Centre





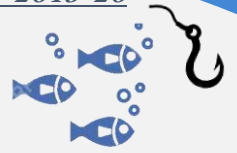
Visit of Shri Mahadev Jankar, Hon'ble Minister for Animal Husbandry and Fisheries, Govt. of Maharashtra on 7th August 2019



Implementation BR projects at North Eastern Region

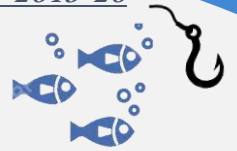






Demonstration of growth performance of improved fish varieties taken up at North Eastern Region





Integrated Paddy-cum-Fish Culture at Arunachal Pradesh by Women SHG: A successful Model



Preparation of Trenches



Releasing of fish fingerlings

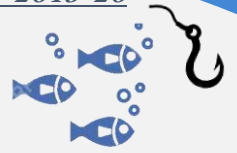


Final Harvest & Yield



Capacity Building of the Women SHG and provision of the Fish marketing vehicle





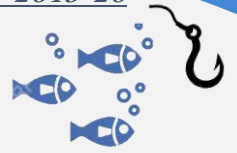
Implementing hybrid Solar-Wind powered systems for use in Fisheries Sector: A Successful Model



VIII: ANNUAL ACCOUNT & AUDIT REPORT



Fish Fact: The Rohu fish roe is especially sought after as a delicacy and praised for its unique flavor.



Part VIII: Annual Account and Audit Report

The Annual accounts of NFDB for the Financial Year 2019-20 are being audited by the Statutory Auditors. The Statutory Audit report would be uploaded upon completion of the audit.

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राष्ट्रीय मात्स्यिकी विकास बोर्ड
National Fisheries Development Board
मत्स्यपालन विभाग

Department of Fisheries

मत्स्यपालन, पशुपालन एवं डेयरी मंत्रालय, भारत सरकार

Ministry of Fisheries, Animal Husbandry & Dairying, Government of India

स्तम्भ संख्या -235, पी. वी. एन. आर एक्सप्रेस वे, डाक- एस. वी. पी. एन. पी. ए, हैदराबाद- 500 052

Pillar No: 235, PVNR Expressway, SVPNPA Post, Hyderabad - 500 052

फोन/ Phone No. 040- 24000177/201, फैक्स /Fax No: 040-2401 5568, वेबसाइट/website: nfdb.gov.in

