



# Annual Report 2018-19

Department of Animal Husbandry, Dairying and Fisheries  
Ministry of Agriculture & Farmers Welfare  
Government of India





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# CHAPTER 1

## OVERVIEW OF ACHIEVEMENTS



## OVERVIEW OF ACHIEVEMENTS

**1.1** Animal Husbandry, Dairying and Fisheries activities, along with agriculture, continue to be an integral part of human life since the process of civilization started. These activities have contributed not only to the food basket and draught animal power but also by maintaining ecological balance. Owing to conducive climate and topography, Animal Husbandry, Dairying and Fisheries Sectors have played prominent socio-economic role in India. Traditional, cultural and religious beliefs have also contributed in the continuance of these activities. They further also play a significant role in generating gainful employment in the rural sector, particularly among the landless, small and marginal farmers and women, besides providing cheap and nutritious food to millions of people.

**1.2** Livestock production and agriculture are intrinsically linked, each being dependent on the other, and both are crucial for overall food security. Livestock sector is an important sub-sector of the agriculture in Indian economy. It forms an important livelihood activity for most of the farmers, supporting agriculture in the form of critical inputs, contributing to the health and nutrition of the household, supplementing

incomes, offering employment opportunities, and finally being a dependable "bank on hooves" in times of need. It acts as a supplementary and complementary enterprise.

**1.3** According to NSSO 66th Round Survey (July 2009 - June 2010) on Employment and Unemployment, 15.60 million workers as per usual status (Principal status plus subsidiaries status) were engaged in farming of animals, mixed farming and fishing. Whereas as per estimate of NSS 68th Round (July 2011-June 2012) survey on Employment and Unemployment, 16.44 million workers as per usual status (Principal status plus subsidiaries status) were engaged in the activities of farming of animals, mixed farming, fishing and aquaculture.

**1.4** India has vast resource of livestock and poultry, which plays a vital role in improving the socio-economic conditions of rural masses. There are about 300 million bovines, 65.07 million sheep, 135.2 million goats and about 10.3 million pigs as per 19th Livestock Census in the country. The species wise population of animals in Livestock and Poultry population during the last three Censuses is given in table 1.1.

**Table 1.1: Livestock and Poultry Population**

S. No.	Species	17 <sup>th</sup> Livestock Census 2003 (no. in millions)	18 <sup>th</sup> Livestock Census 2007 (no. in millions)	19 <sup>th</sup> Livestock Census 2012 (no. in millions)	Growth Rate (%) 2007-12
1	Cattle	185.2	199.1	190.9	-4.10
2	Buffalo	97.9	105.3	108.7	3.19
3	Yaks	0.1	0.1	0.1	-7.82
4	Mithuns	0.3	0.3	0.3	12.85
	Total Bovines	283.4	304.8	300.0	-1.57

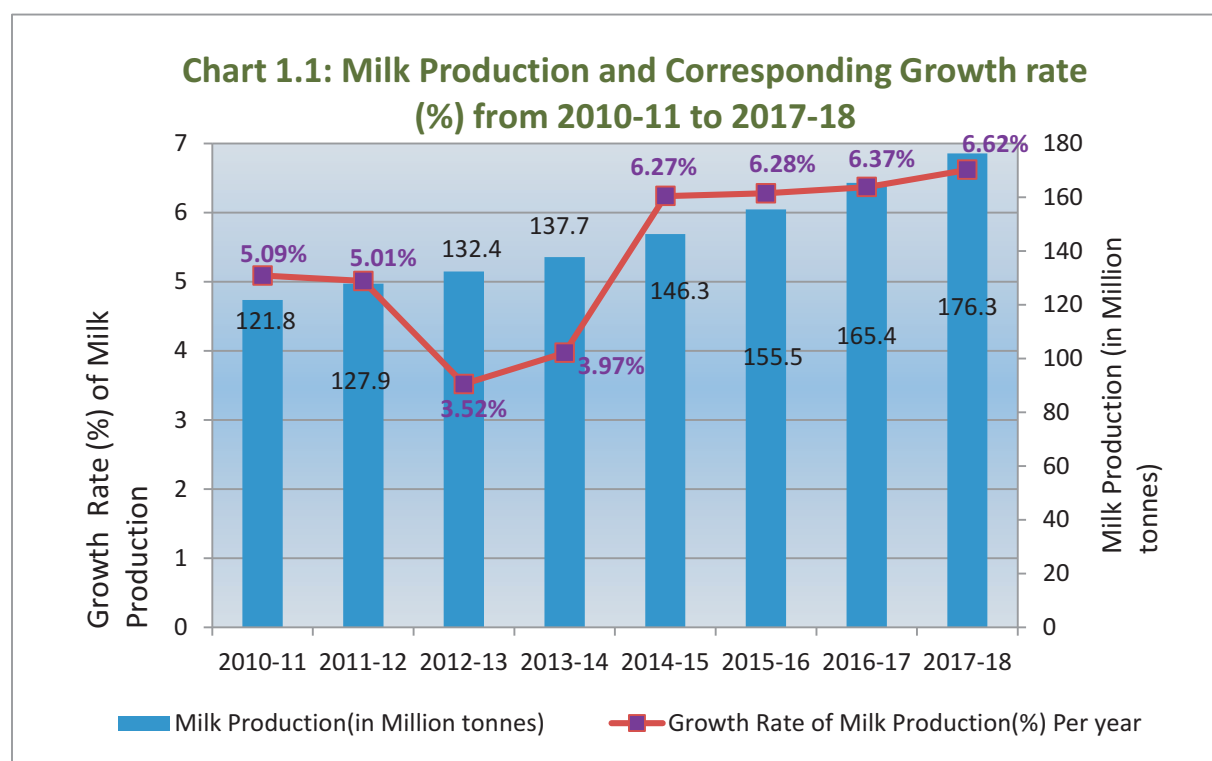
5	Sheep	61.5	71.6	65.07	-9.07
6	Goat	124.4	140.5	135.2	-3.82
7	Pigs	13.5	11.1	10.3	-7.54
8	Other animals	2.2	1.7	1.48	-12.94
	Total Livestock	485	529.7	512.05	-3.33
9	Poultry	489	648.8	729.2	12.39

The State-wise breakup of different species of livestock and Poultry is given at **Annexure-I**.

## 1.5 Livestock Production:

**1.5.1 Livestock production and agriculture** are intrinsically linked, each being dependent on the other, and both are crucial for overall food security. According to estimates of the Central Statistics Office (CSO), the value of output livestock sector was about Rs. 9,17,910 crore at current prices during 2016-17 which is about 31.25% of the value of output from agricultural and allied sector. At constant prices the value of output from livestock was about 31.11% of the value of the output from total agriculture and allied sector.

**1.5.2 Milk Production:** India continues to be the largest producer of milk in world. Several measures have been initiated by the Government to increase the productivity of livestock, which has resulted in increasing the milk production significantly from the level of 102.6 million tonnes at the end of the Tenth Plan (2006-07) to 127.9 million tonnes at the end of the Eleventh Plan (2011-12). Milk Production during 2016-17 and 2017-18 are 165.4 million tonnes and 176.3 million tonnes respectively showing an annual growth of 6.62%. The per capita availability of milk is around 375 grams per day in 2017-18. The production of milk and corresponding growth rate (%) per year from 2010-11 to 2017-18 is shown at chart:1.1:

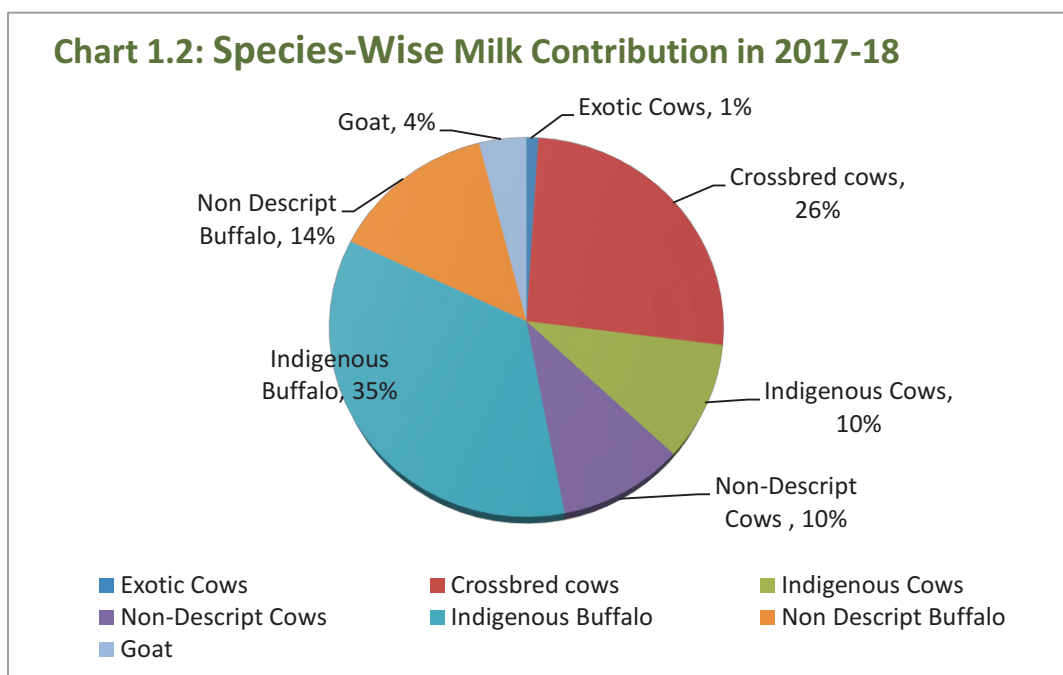


**1.5.2.1 Average Yield Rate for Milk:** The average yield of milk per day per animal in milk at National level from different species during 2017-18 is given below:

**Table 1.2: Average Yield Rate for Milk**

Exotic Cows (kg/day)	Crossbred Cows (kg/day)	Indigenous Cows (kg/day)	Non-Descript Cows (kg/day)	Indigenous Buffalo (kg/day)	Non-Descript Buffalo (kg/day)	Goat (kg/day)
11.48	7.61	3.73	2.41	6.19	4.21	0.47

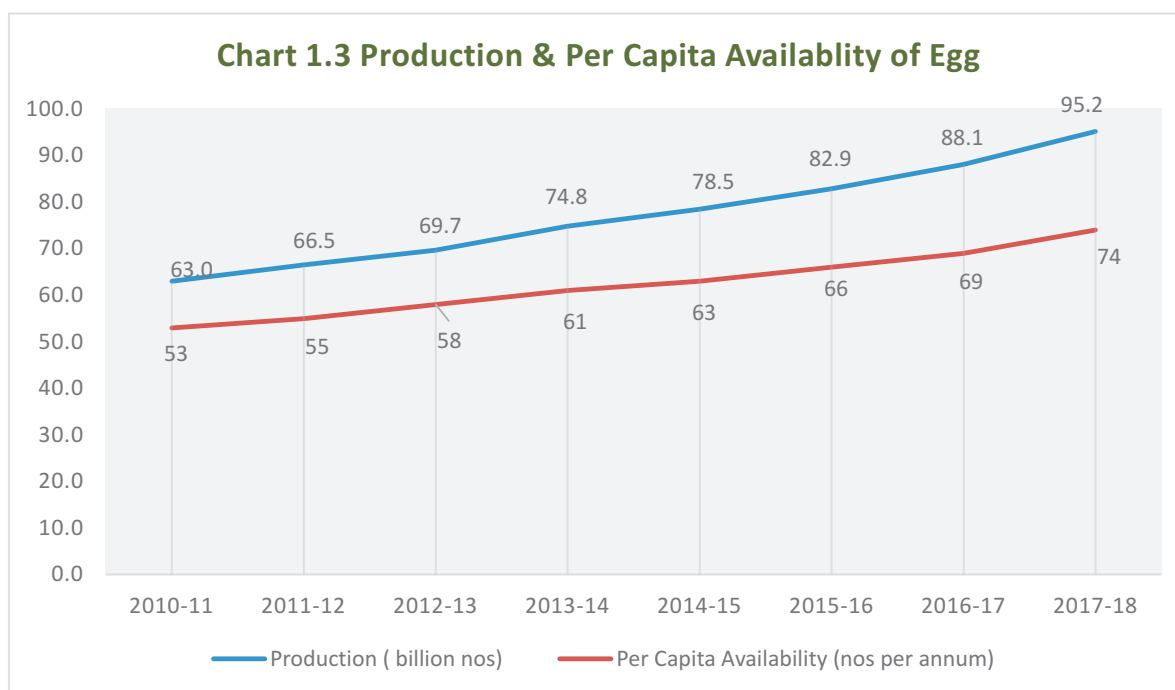
**1.5.2.2 %age Share of Milk Production during 2017-18.**



**1.5.2.2** The above Chart shows the contribution of milk production by Cows, Buffalo and Goat. The analysis shows nearly 35% of the milk production is contributed by Indigenous Buffaloes followed by 26% by crossbred cows. The Indigenous cows contribute 10% of the total milk production in the country whereas non-descript cows contribute 10% milk production and non-descript buffaloes contribute 14% milk production. Goat milk shares a contribution of 4% in the total milk production across the country.

**1.5.3 Egg Production:** Poultry production in India has taken a quantum leap in the last four decades, emerging from an unscientific farming

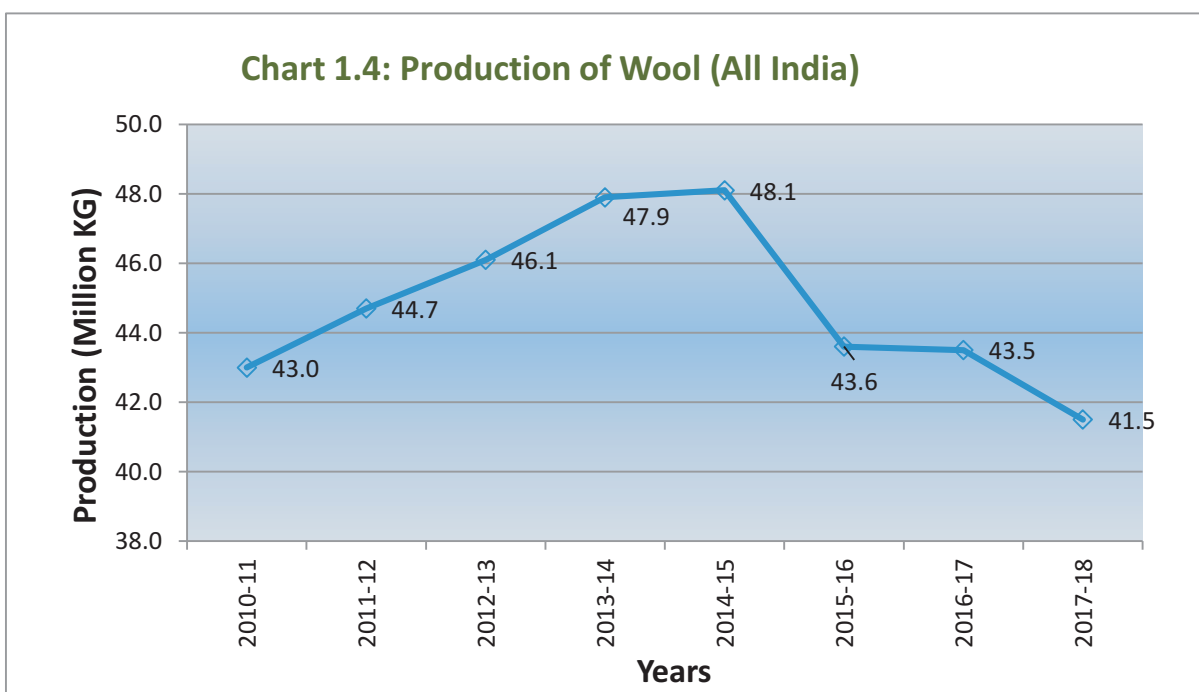
practice to commercial production system with state-of-the-art technological interventions. Egg production at the end of the Tenth Plan (2006-07) was 50.66 billion as compared to 66.45 billion at the end of the Eleventh Plan (2011-12). Currently the total Poultry population in our country is 729.21 million (as per 19<sup>th</sup> Livestock Census) and egg production is around 95.2 billion during 2017-18. The per capita availability (2017-18) is around 74 eggs per annum. Egg production and the corresponding growth rate (%) per year of the country from 2010-11 to 2017-18 is shown at chart:1.3:



*Based on 2001-Human Census Projected Population*

**1.5.4 Wool Production:** Wool production declined marginally at the end of Eleventh Five Year Plan (2011-12) to 44.7 million kg from 45.1 million kg in the end of Tenth Five Year Plan (2006-07). Wool production in the beginning of Twelfth Plan (2012-13) was 46.1 million Kg and increased to

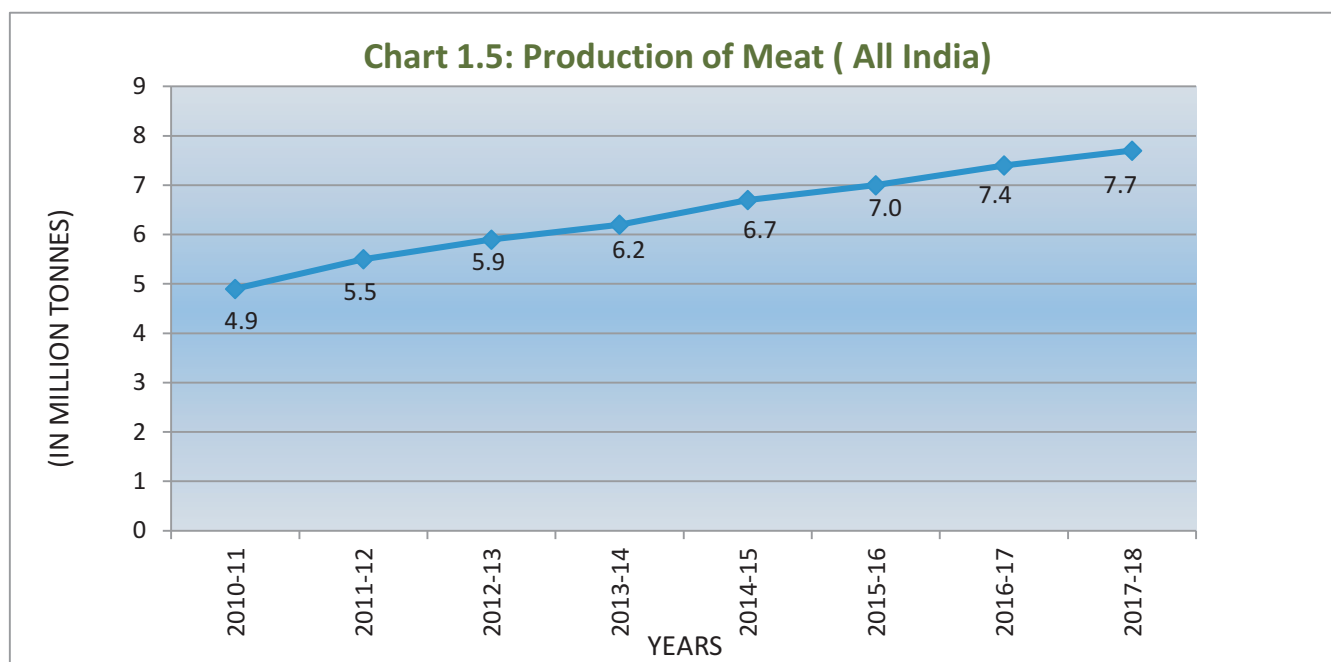
48.1 million Kg in 2014-15 but declined to 41.5 million kgs in 2017-18. The Wool production has shown negative growth as (-) 4.78% during 2017-18. The production of wool and the corresponding growth rate (%) per year of the country from 2010-11 to 2017-18 is shown at chart:1.4 :





**1.5.5 Meat Production:** The Meat production has registered a healthy growth from 2.3 million tonnes at the end of Tenth Five Year Plan (2006-07) to 5.5 million tonnes at the end of the Eleventh Five Year Plan (2011-12). Meat production in the beginning of Twelfth Plan (2012-13) was 5.95

million tonnes which has been further increased to 7.7 million tonnes in 2017-18. The production of meat and the corresponding growth rate (%) per year of the country from 2010-11 to 2017-18 is shown at chart:1.5



The Production of major livestock products since 1950-51 to 2017-18 is given at Annexure-II.

## 1.6 Fisheries Production

**1.6.1** The country has vast potential for fisheries in view of our long coastline of 8,118 km apart from the inland water resources. During the financial year 2017-18, the total fish production in India is estimated at 12.61 Million Metric tonnes. The gross value addition of the fisheries and aquaculture sector during 2016-17 was Rs. 1,33,492 Crores which is about 0.96% of the National Gross Value Added (GVA) and 5.37% to the agricultural GVA (2016-17). During the year 2017-18, the country has exported 13,77,244 tonnes fish and fisheries products worth Rs. 45106.89 crore ( 7.08 billion US \$).

**1.6.2** India is the second largest producer of fish and also second largest aquaculture nation in the

world. Fish production has increased from 5.66 Million Metric tonnes (2.82 Million Metric tonnes for marine and 2.84 Million Metric tonnes for inland fisheries) in 2000-01 to 12.61 Million Metric tonnes (3.68 Million Metric tonnes for marine and 8.92 Million Metric tonnes for inland fisheries) in 2017-18 (Provisional). During the first three quarters of 2018-19, the fish production is estimated at 3.62 million metric tonnes. The State-wise details of fish production and the year-wise production of fish seeds is given in **Annexure-III and IV respectively.**

## 1.7 Government's Initiative and Assistance to States

As Agriculture, including Animal Husbandry, Dairying and Fisheries is a State subject; the emphasis of the Department has been on supplementing efforts of the State Governments in the development of these sectors.

The Department has been providing assistance to the State Governments for the control of animal diseases, scientific management and upgradation of genetic resources, increasing availability of nutritious feed and fodder, sustainable development of processing and marketing facilities and enhancement of production and profitability of livestock and fisheries enterprises.

## 1.8 Eleventh Five Year Plan

1.8.1 The approach for the 11<sup>th</sup> Five Year Plan for the livestock sector was aimed at achieving an

overall growth between 6 to 7 % per annum for the sector as a whole, with milk group achieving a growth of 5% per annum and meat and poultry achieving a growth of 10% per annum. The growth of value of output from the livestock sector during Eleventh Plan was about 4.8 % per annum and from fisheries was about 3.6% per annum.

1.8.2 As against the outlay of Rs. 8,174 crore provided to this Department for the 11<sup>th</sup> Five Year Plan, year-wise financial achievements are given below:

**Table 1.3: Year-wise BE, RE and Actual Expenditure during 11th Plan**

(` in crore)

Year	Approved BE	Revised Estimate (RE)	Actual Exp.	% of Utilization w.r.t. RE	% of Utilization w.r.t. BE
11th Plan (2007-12)	8174.00				
2007-08	910.00	810.00	784.09	96.80	86.16
2008-09	1000.00	940.00	865.27	92.05	86.53
2009-10	1100.00	930.00	873.38	93.91	79.40
2010-11	1300.00	1257.00	1104.68	87.88	84.98
2011-12	1600.00	1356.52	1243.11	91.64	77.70
<b>Total</b>	<b>5910.00</b>	<b>5293.52</b>	<b>4870.53</b>	<b>92.01</b>	<b>82.41</b>

1.8.3 In addition to the approved outlay of the Department of Animal Husbandry, Dairying and Fisheries, an amount of Rs. 5,406.38 crore was allocated for animal husbandry, dairying and fisheries sector under Rashtriya Krishi Vikas Yojana and National Mission for Protein Supplements during 11<sup>th</sup> Plan.

1.8.4 During the Eleventh Five Year Plan, Department had initiated several new programmes/schemes like Establishment of Veterinary Hospitals and Dispensaries, National Control Programme on Brucellosis, National Control Programme of Peste des Petits Ruminants (PPR) and expansion of Foot & Mouth Disease Control Programme from 54 to 221 districts for strengthening the efforts for animal disease

control. To meet the shortage of fodder, several new components were incorporated in the Feed and Fodder scheme. Further, Dairy Entrepreneurship Development Scheme was initiated in the 11<sup>th</sup> Plan with the objective of increasing investment in dairy sector for increasing milk production in the country while creating self-employment opportunities.

## 1.9 Twelfth Five Year Plan

1.9.1 The Department has received in-principle approval of an allocation of Rs. 14,179.00 crore from the Planning Commission (including Rs.1,584.00 crore as

Allocation of Rs. 14,179 crore for the Department for 12<sup>th</sup> Five Year Plan.

External Aid) for 12<sup>th</sup> Five Year Plan. This includes an amount of Rs 7,628 crore for Animal Husbandry, Rs.4,976.00 crore for Dairy Development and Rs. 2,483.00 crore for the Fisheries sector, Rs. 35.00 crore for Secretariat and Economic Services and Rs.51.00 crore for Special Package for Development of Kuttanad Eco-System and Mitigation of Agrarian Distress in Idukki district in Kerala.

**1.9.2** Livestock sector which recorded a growth in value of output about 4.8 % per annum in Eleventh Five Year Plan has excellent potential for higher growth in Twelfth Five Year Plan. The increased demand for protein foods in the country is the main driver for such growth, which is also more inclusive since small holders and landless farmers account for major share in ownership of livestock. Similarly, the fisheries sub-sector, which has recorded a growth of about 5 % per annum previously, can grow at more than 6 % per annum during Twelfth Five Year Plan.

**1.9.3** Major challenges of animal husbandry sectors are effective control of animal diseases, shortage of feed and fodder, breed improvement while preserving diverse genetic resources and dissemination of technology, skills and quality services to farmers for improving productivity, which need to be addressed.

**1.9.4** Department has restructured its Centrally Sponsored Schemes (CSSs) for implementation during Twelfth Five Year Plan and accordingly, allocate funds from the available resources to achieve the growth targets in following manner :

- a) In order to boost the growth of the livestock sector, the National Livestock Mission (NLM) has been launched during Twelfth Five Year Plan, with the main objective of achieving sustainable development of the sector by providing greater flexibility to States in formulating and implementing the schemes as per the local needs for benefit of the farmers. The National Livestock Mission will have an

important component to promote availability of feed and fodder to substantially reduce the gap between availability and demand. The Mission also supports initiatives relating to development of poultry, piggery, small ruminants and other minor livestock species as per the agro-climatic conditions of different regions/States. An amount of Rs.2,800 crore had been allocated for carrying out above activities under National Livestock Mission for the 12<sup>th</sup> Five Year Plan.

- b) Taking into account the importance of effective control of animal diseases, which adversely impact the productivity of livestock, the Department has launched National Control Programmes for major animal diseases like FMD, PPR, Brucellosis and Classical Swine Fever. The whole country under FMD-CP will be covered in a phased manner depending on the availability of vaccine and funds during 12<sup>th</sup> Plan period. PPR and Brucellosis Control program are already being implemented in all the States/UTs, while CSF-CP is focused initially in NE States. An amount of Rs. 3,114 crore has been allocated for the Livestock Health and Disease Control scheme for the 12<sup>th</sup> Five Year Plan.
- c) There is a need to further expand the artificial insemination programme from the present level of coverage from about 25% to 50% of breedable bovine population by end of Twelfth Plan in order to improve productivity of milk by genetic improvement. Efforts for conservation of quality indigenous breeds will be strengthened further. The cooperative sector has made substantial contribution towards modernizing the dairy industry. For strengthening the efforts of the dairy cooperatives to increase productivity and income of the milk producers/farmers through improved management of breeding and feeding, Government has launched the National Dairy Plan (Phase-I)

with effect from 2011-12 to be implemented during Twelfth Plan with an outlay of Rs. 1,756 crore.

- d) The combined activities in respect of breeding and dairying will be more effective in extension of artificial insemination services, feed management and marketing of good quality of milk which are essential for improving productivity and income of farmers. The scheme for bovine breeding has been merged with dairy development schemes to create synergies of resources. National Programme for Bovine Breeding and Dairy Development (NPBB&DD) scheme is having two main components namely, National Programme for Bovine Breeding (NPBB) and National Programme for Dairy Development (NPDD). States have established Livestock Development Boards to implement the breeding programme for bovines with a focus on development and conservation of important indigenous breeds. The component for the dairy

development is mainly focusing on the States/areas not covered under NDP. Convergence in service delivery for breeding, dairying and extension through dairy cooperatives is being attempted in a phased manner. An amount of Rs. 1,800 crore has been allocated for NPBB&DD for the Twelfth Five Year Plan.

- e) The National Fisheries Development Board (NFDB), which was launched in the year 2006 for fostering integrated development of fisheries sector, is being strengthened further by bringing almost all schemes relating to development of fisheries into its fold with focus on management of fish diseases and creation of related infrastructure. An amount of Rs. 1,880 crore has been allocated for NFDB for the Twelfth Five Year Plan.
- f) As against the outlay of Rs. 14,179 crore provided to this Department for the 12<sup>th</sup> Five Year Plan, year-wise financial achievements are given below in Table:1.4:

**Table 1.4: Year-wise BE, RE and Actual Expenditure during 12<sup>th</sup> Plan**

(` in crore)

Year	Approved BE	Revised Estimate (RE)	Actual Exp.	% of Utilization w.r.t. RE	% of Utilization w.r.t. BE
12 <sup>th</sup> Plan (2012-17)	14179.00				
2012-13	1910.00	1800.00	1736.37	96.47	90.91
2013-14	2025.00	1800.00	1748.80	97.16	86.36
2014-15	2174.00	1800.00	1738.07	96.56	79.94
2015-16	1491.14	1491.14	1418.20	95.11	95.11
2016-17	1600.00	1748.02	1743.12	99.71	108.94
<b>Total</b>	<b>9200.14</b>	<b>8639.14</b>	<b>8384.56</b>	<b>97.05</b>	<b>91.13</b>

**Hon'ble Finance Minister has announced launching of following new schemes during the Budget Speech for the year 2017-18 & 2018-19:**

- a) Considering Dairy as an important source of additional income for the farmers, availability of milk processing facility and other infrastructure will benefit the farmers



through value addition. A large number of milk processing units set up under the Operation Flood programme has since become old and obsolete. Hon'ble Finance Minister has made an additional allocation for Dairy Processing and Infrastructure Development Fund set up as a corpus of Rs. 8004 crore with NABARD during Budget Speech in 2017-18 for the three years. Initially, the Fund will start with a corpus of Rs. 2,000.00 crore.

- b.) Setting up a Fisheries and Aquaculture Infrastructure Development Fund (FAIDF) for fisheries sector and an Animal Husbandry Infrastructure Development Fund (AHIDF) for financing infrastructure required of animal husbandry sector. Total corpus of these two new Funds would be Rs 10,000 crore. The Union Government has in October, 2018 approved a proposal for creation of Fisheries and Aquaculture Infrastructure Development Fund (FIDF) with a total fund size of Rs. 7522.48 crore. The FIDF provides concessional finance to the Eligible Entities (EEs), including State Governments/UTs and State entities for development of identified fisheries infrastructure facilities. The concessional finance is provided by the Nodal Lending Entities (NLEs) namely (i) National Bank for Agriculture and Rural Development (NABARD), (ii) National Cooperatives

Development Corporation (NCDC), and (iii) All scheduled Banks. Under the FIDF, the Government of India provides interest subvention up to 3% per annum for providing the concessional finance by the NLEs at the interest rate not lower than 5% per annum. Loan lending will be over a period of five years from 2018-19 to 2022-23 and maximum repayment will be over a period of 12 years inclusive of moratorium of 2 (two) years on repayment of principal. National Fisheries Development Board (NFDB) is the Nodal Implementing Agency for overall coordination of the FIDF activities.

### 1.10 Annual Plan 2017-18 & 2018-19

**1.10.1** The Department was allocated Rs. 2,921.00 crore at BE stage for the Annual Plan 2017-18, which was further decreased to Rs. 2,607.74 crore at RE stage. The final expenditure for 2017-18 was Rs. 2,525.98 crore. For the year 2018-19, the Department has been allocated Rs.3,580.00 crore (including Plan & Non-Plan) at BE stage which has been increased to Rs.3,663.28 crore at RE stage (as on 31.03.2019). By the end of March, 2019, the Department has incurred an expenditure of Rs. 3,580.34 crore out of the allocated fund for the financial year 2018-19.

**1.10.2** The scheme-wise BE, RE and Expenditure for 2017-18 and 2018-19 is given at **Annexure-V**.



# CHAPTER 2

# ORGANIZATION





# ORGANIZATION

## 2.1 Structure

**2.1.1** The Department of Animal Husbandry, Dairying & Fisheries is one of the Departments under the Ministry of Agriculture and Farmers Welfare. It came into existence on February 1, 1991 by merger of two Divisions of the Department of Agriculture and Cooperation viz. Animal Husbandry and Dairy Development into a separate Department. The Fisheries Division of the Department of Agriculture & Cooperation and a part of the Ministry of Food Processing Industries was later transferred to this Department on October 10, 1997. In pursuance of Interim Budget Announcement 2019-20, the Fisheries Division has been separated as a new Department named Department of Fisheries, by carving out from the Department of Animal Husbandry, Dairying and Fisheries, vide Cabinet Secretariat's Notification No.S.O. 762 (E) dated 05.02.2019.

**2.1.2** The Department is under the overall charge of Shri Radha Mohan Singh, Hon'ble Minister of Agriculture and Farmers Welfare. He is assisted by three Ministers of State for Agriculture and Farmers Welfare namely Shri Gajendra Singh Shekhawat, Smt. Krishna Raj & Shri Purshottam Rupala. The administrative head of the Department is the Secretary (Animal Husbandry, Dairying & Fisheries). After bifurcation of the Department, the administrative head of the newly created Department viz. Department of Fisheries is Secretary (Fisheries).

**2.1.3** The Secretary of the Department is assisted by Animal Husbandry Commissioner, six Joint Secretaries and one Adviser (Statistics) in discharging the responsibilities assigned to this Department.

**2.1.4** From 08.03.2019, the Secretary of the Department of Animal Husbandry and Dairying is assisted by Animal Husbandry Commissioner, four Joint Secretaries and one Adviser (Statistics) in discharging the responsibilities assigned to the Department. The Secretary of the Department of

Fisheries is assisted by two Joint Secretaries in discharging the responsibilities assigned to the Department. The organizational chart of the Department of Animal Husbandry and Dairying, and Department of Fisheries, and work allocation among various Divisions is given at **Annexure-VI**.

## 2.2 Functions

**2.2.1** The Department is responsible for matters relating to livestock production, preservation, protection & improvement of stocks, dairy development, matters relating to the Delhi Milk Scheme and the National Dairy Development Board. It also looks after all matters pertaining fisheries, which includes inland and marine sectors and matters related to the National Fisheries Development Board

**2.2.2** The Department advises the State Governments/Union Territories in formulation of policies and programmes in the field of animal husbandry, dairy development and fisheries. The main focus of the activities is on (a) Development of requisite infrastructure in States/UTs for improving animal productivity; (b) Promoting infrastructure for handling, processing and marketing of milk and milk products; (c) Preservation and protection of livestock through provision of health care; (d) Strengthening of central livestock farms (Cattle, Sheep and Poultry) for development of superior germplasm for distribution to States; and (e) Expansion of aquaculture in fresh and brackish water, development of marine fisheries infrastructure & post harvest operations and welfare of fisherfolk, etc.

**2.2.3** The list of the subjects allocated to the Department is given at **Annexure-VII**.

## 2.3 Subordinate Offices

**2.3.1** The Department looks after the administration of the following field / subordinate Offices spread all over the country (Table 2.1).

Table 2.1: Subordinate Offices

S. No.	Subordinate Offices	Number
(i)	Breed Improvement Institutes	12
(ii)	Central Poultry Development Organizations	5
(iii)	Central Sheep Breeding Farm	1
(iv)	Central Fodder Development Organizations	8
(v)	National Institute of Animal Health, Baghpat	1
(vi)	Animal Quarantine Certification Service Stations	6
(vii)	Delhi Milk Scheme	1
(viii)	Central Institute of Coastal Engineering for Fishery, Bengaluru	1
(ix)	Central Institute of Fisheries Nautical and Engineering Training, Kochi	1
(x)	National Institute of Fisheries Post Harvest, Technology and Training, Kochi	1
(xi)	Fishery Survey of India, Mumbai	1
	<b>Total</b>	<b>38</b>

**2.3.2** A list of the aforesaid subordinate offices is given at **Annexure-VIII**.

## **2.4 National Dairy Development Board (NDDB)**

**2.4.1** National Dairy Development Board, located at Anand, Gujarat, set up in 1965 and declared as a statutory body corporate in 1987 under the NDDB Act, is a premier institution to accelerate the pace of dairy development on cooperative lines in the country.

## **2.5 National Fisheries Development Board (NFDB)**

**2.5.1** National Fisheries Development Board (NFDB) was set up in September, 2006, with its head quarters at Hyderabad to realize the untapped potential of fisheries sector in inland and marine fish capture, culture, processing & marketing of fish, and overall growth of fisheries sector with the application of modern tools of research & development.

## **2.6 Coastal Aquaculture Authority**

**2.6.1** The Coastal Aquaculture Authority (CAA) was established under the Coastal Aquaculture Act, 2005 vide Gazette Notification dated 22<sup>nd</sup>

December 2005. The aims and objectives of the Authority are to regulate 'Coastal Aquaculture' activities in the areas notified by the Central Government as 'coastal areas' and for matters connected therewith or incidental thereto. The Authority is empowered to make regulations for the construction and operation of aquaculture farms in coastal areas, registration of aquaculture farms and hatcheries, to inspect them to ascertain their environmental impact, remove or demolish coastal aquaculture farms which cause pollution, fixing standards for coastal aquaculture inputs in order to facilitate environmentally responsible and socially acceptable coastal aquaculture.

## **2.7 Veterinary Council of India**

**2.7.1** Veterinary Council of India (VCI) is a statutory body established under the provision of Indian Veterinary Council Act, 1984. Veterinary Council of India is responsible for regulating veterinary practices as well as for maintaining uniform standards of veterinary education through Minimum Standard of Veterinary Education Regulations in all veterinary institutes across the country except the State of Jammu & Kashmir.

**2.7.2** Veterinary Council of India is consisting of 27 Members - five Members nominated by the Government of India from amongst the Directors of Animal Husbandry of those States to which the Act extends, four Members from amongst the heads of Veterinary institutions in the States to which the Act extends, one Member nominated by the Indian Council of Agricultural Research (ICAR), one Member to represent Government of India from Department of Animal Husbandry, Dairying and Fisheries (DADF), Ministry of Agriculture and Farmers Welfare, one Member nominated by the Indian Veterinary Association, one Member nominated from amongst the Presidents of the State Veterinary Councils of those States to which this Act extends and one Member nominated from amongst the Presidents of the State Veterinary Associations of those States to which this Act extends. Eleven members are elected from amongst the persons enrolled in the Indian Veterinary Practitioners Register. Animal Husbandry Commissioner, Government of India and Secretary, Veterinary Council of India are the ex-officio members of the Council.

**2.7.3** In keeping pace with the global commitments and in its endeavor to meet the objectives to make the Graduates more service worthy in the recent global context, VCI decided to bring certain major changes in these Regulations and notified the revised Minimum Standards of Veterinary Education Regulations 2016. These Regulations have been implemented by all the recognized Veterinary Colleges in India except in the State of Jammu and Kashmir.

**2.7.4** To meet the shortage of trained veterinary manpower in the country, the number of recognized colleges have now increased to 50.

**2.7.5** In order to regulate the standards of veterinary education in the country and to ensure implementation of the Minimum Standards of Veterinary Education – Degree Course (B.V.Sc. & A.H.) Regulations, the Council carries out inspections of the Veterinary Colleges in respect of the facilities available for imparting veterinary education and the examinations leading to award

of B.V.Sc. & AH Qualification periodically under the provisions of Section 19 and 20 of the Indian Veterinary Council Act, 1984.

**2.7.6** The Council has directly registered 727 numbers of practitioners desirous of registering their names with Veterinary Council of India as per section 24 of Indian Veterinary Council Act, 1984 and as provided by Veterinary Council of India (Registration) Regulations, 1992. During the year, the Council disposed 98 applications for transfer of registration of veterinary practitioners from one State to another State as provided under Section 52 of the Indian Veterinary Council Act, 1984.

**2.7.7** Further, the Central Government has framed Veterinary Council of India (Procedure for recognition and de-recognition of veterinary colleges and veterinary qualifications) Rules, 2017 which were notified on 19.05.2017. The Rules have been notified to streamline the procedure for recognition and de-recognition of veterinary colleges and qualifications, admission process in the veterinary colleges by the Veterinary Council of India in a time bound manner.

## **2.8 Grievances Cell**

**2.8.1** A Grievances Cell has been set up in the Department to look into grievances of the public. The cell is headed by Joint Secretary level officer.

## **2.9 Liaison Officer for SC/ST**

**2.9.1** Two Liaison Officers have been appointed –one each in respect of OBC and SC/ST/PWD category respectively under the Chief Liaison Officer at Headquarters of DADF for OBC, SC/ST employees and persons with Disabilities of this Department including sub-ordinate/field offices. Besides, Liaison Officers have been appointed for sub-ordinate offices in a cluster to ensure proper implementation of government policy on reservations in service.

## **2.10 Vigilance Unit**

**2.10.1** Vigilance Unit processes vigilance cases pertaining to the Department and its subordinate offices. The Chief Vigilance Officer monitors the vigilance cases on a regular basis. The Department along with its field units observed Vigilance



Awareness Week from 29<sup>th</sup> October, 2018 - 3<sup>rd</sup> November, 2018. The theme of observing Vigilance Awareness Week was "Eradicate Corruption-Build a New India". Secretary (ADF) administered a pledge to all officers and staff on 29.10.2018.

### **2.11 Progressive use of Hindi**

**2.11.1** The Department has made concerted efforts during the year for promotion of Hindi in Official work. The Hindi Section was actively involved in translating various important documents like the Annual Report, Performance Budget, Parliament Questions, documents related to Parliamentary Standing Committee and Cabinet notes, etc. as well as in implementing the Official Language Policy of the Government.

**2.11.2** An Official Language Implementation Committee is functioning in the Department under the Chairmanship of Joint Secretary (Admn.). In accordance with the prescribed rules, four meetings of the Committee were held during the year. The progress in use of Hindi in the Department was reviewed in these meetings. Suggestions were given to promote the use of Hindi in official work. As a result of these suggestions, the percentage of correspondence in Hindi has increased considerably.

**2.11.3** Circular letters were also issued from time to time from the Secretary, Department of Animal Husbandry, Dairying & Fisheries and Joint Secretary concerned to all Officers/Sections emphasizing need for proper implementation of the Official Language Policy of the Government.

**2.11.4** All letters received in Hindi were replied in Hindi. Similarly letters originated from the Department to States located in region "A" and "B" were also sent in Hindi. Provisions of Section 3(3) of the Official Language Act, 1963 were also fully complied with.

**2.11.5** Hindi Fortnight was observed in the Department from 1st to 15th September, 2018. During which, various competitions such as Hindi essay writing, Hindi noting drafting, Hindi Rajbhasha Gyan and debate were organized. A large number of officials participated in these competitions

### **2.12 Implementation of Right to Information (RTI) Act, 2005**

**2.12.1** For the purpose of providing information of public interest, Department has designated Central Public Information Officers (CPIOs) and Appellate Authorities under the relevant provision of the RTI Act. Similarly, separate CPIOs and Appellate Authorities under RTI Act have been designated for various subordinate offices and autonomous organizations under the Department. RTI applications received through online RTI Portal and otherwise are forwarded online to the concerned CPIO for speedy disposal.

### **2.13 Reservation for Scheduled Castes (SCs), Scheduled Tribes (STs), Other Backward Castes (OBCs) and others:**

**2.13.1** Department of Animal Husbandry, Dairying & Fisheries (DAHD&F) continued its endeavor for strict implementation of the orders issued by the Government of India from time to time, regarding reservation in services for SCs, STs, OBCs, minorities, ex-servicemen, and physically disabled persons. A dedicated cell for proper implementation of government policy on reservation has been established in the Department to ensure reservation in service.

### **2.14 Prevention of Harassment of Women Employees**

**2.14.1** A committee for prevention of sexual harassment of women at workplace exists in the Department to look into the complaints of sexual harassment of women. No complaint has been received during the year 2018-2019.

### **2.15 Minimum Government, Maximum Governance**

**2.15.1** Initiatives taken by the Department for speedy disposal of grievances have been reflected in the CPGRAM Portal.

**2.15.2** Monthly Report on significant developments and monitoring of various issues viz. Presentations made before Prime Minister, Center State Cooperation, updating of decisions of the Cabinet and the Cabinet Committees through e-Samiksha portal are being done regularly.

# CHAPTER 3

## ANIMAL HUSBANDRY



## ANIMAL HUSBANDRY

### 3.1 Rashtriya Gokul Mission:

#### 3.1.1 Introduction

The Rashtriya Gokul Mission has been implemented for development and conservation of indigenous bovine breeds since December 2014. The scheme is crucial for upliftment of rural poor as more than 80% of low producing indigenous animals are with small and marginal farmers and landless labourers. The scheme is important in enhancing milk production and productivity of bovines to meet growing demand of milk and making dairying more remunerative to the rural farmers of the country. The scheme is leading to multiplication of elite animals of indigenous breeds and increased availability of indigenous stock.

#### 3.1.2 Objectives

The scheme is being implemented with the following mandate:

- i) To undertake breed improvement programme for indigenous cattle breeds so as to improve their genetic makeup and increase the stock.
- ii) To enhance milk production and productivity of indigenous bovine breeds.
- iii) To upgrade nondescript cattle using elite indigenous breeds like Gir, Sahiwal, Rathi, Red Sindhi, Tharparkar, Kankrej and Haryana.
- iv) Arrange quality Artificial Insemination (A.I) services at farmers' doorstep
- v) Bring all breedable females under organised breeding through Artificial Insemination using germplasm of high genetic merit disease-free bulls.
- vi) Increasing population of high genetic merit female population

### 3.1.3 Components

Major components under the scheme are as under:

- (i) **Conservation of Indigenous Breeds**
  - (a) Establishment of "Gokul Gram" or integrated cattle development centre
  - (b) Establishment of National Kamdhenu Breeding Centre
  - (c) Pashu Sanjivni - Identification and issue of Health Cards to in-Milk bovines
- (ii) **Breed Improvement by Modern Reproductive Techniques**
  - (a) Sexed semen production
  - (b) Establishment of Embryo Transfer Technology (ETT) & In-Vitro Fertilization (IVF) laboratories
  - (c) E-Pashuhaat Portal
  - (d) Establishment of National Bovine Genomic Centre for Indigenous Breeds.
- (iii) **Awareness Program:**
  - (a) Award to Farmers ("Gopal Ratna") and Breeders' Societies/Organisation ("Kamdhenu")
  - (b) Organisation of Fertility Camps
- (iv) **Enhancement of Production and Productivity by Traditional methods**
  - (a) Field performance Recording
  - (b) Progeny Testing
  - (c) Pedigree Selection
- (v) **Extension of AI Coverage**
  - a) Artificial insemination (AI) coverage
  - b) Establishment of MAITRI centres
  - c) Strengthening of field AI network

- d) Strengthening of Liquid Nitrogen(LN) storage, transport and distribution system
- e) Strengthening of AI training infra structure
- f) Manpower development
- g) Evaluation of Semen stations

### 3.1.4 Status of Implementation

3.1.4.1 The Rashtriya Gokul Mission has been initiated in December 2014 with an allocation of Rs 2025 Crore. Year wise allocation and expenditure made under the scheme since inception is as under:

#### BE and expenditure made under RGM since 2014-15

Financial	Rs. in Crore					
	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Allocation	159.40	81.77	104.50	190.00	750.50	1286.17
Expenditure	159.02	81.76	118.75	187.64	750.44	1297.61

### 3.1.3.1 Conservation of Indigenous Breeds:

#### 3.1.3.1.1 Gokul Gram:

Integrated indigenous cattle development Centres - "Gokul Grams"- are being established under the Rashtriya Gokul Mission with the aim of conservation and development of indigenous bovine breeds in a scientific and holistic manner. The objectives for establishment of Gokul Grams are as under:

- a) To promote indigenous cattle rearing and conservation in a scientific manner.
- b) To propagate high genetic merit bulls of indigenous breeds.

- c) To optimize modern Farm Management practices and promote Common Resource Management.

- d) To utilize animal waste in an economical way i.e. Cow Dung, Cow Urine

#### 3.1.3.1.2 Status of Establishment:

Establishment of 21 Gokul Grams have been approved in 14 States under the scheme with an outlay of Rs 207.62 crores and an amount Rs. 74 crore has been released to States for establishment of Gokul Grams. As on date, 4 Gokul grams (Varanasi, Mathura, Patiala and Phora) have been completed and work is under progress in remaining 17 Gokul Grams.

#### Status of Establishment of Gokul Grams

State	No. and Locations of the Gokul Grams		Fund allocated (Rs. in Crore)
	No.	Location	
Andhra Pradesh	1	Chadalawada, Prakasam	10
Arunachal Pradesh	1	Lohit	3.44
Bihar	1	Dumraon Buxar	7.9
Chhattisgarh	2	Bemetra and Sarkanda (Bilaspur)	11.97
Gujarat	3	Dharampur, Surat and Banaskantha	63.36
Haryana	1	Hissar	15



Karnataka	1	Kurikuppe, Bellary	5
Maharashtra	3	Palghar, Pohra and Tathtawade	27
Madhya Pradesh	1	Ratona Sagar	10
Punjab	1	Bir Dosanji, Patiala	12.85
Uttar Pradesh	3	Varanasi, Mathura & Shahjahanpur	24.14
Uttarakhand	1	Govardhanpura	1.64
Telangana	1	Veterinary University Hyderabad	5.37
Himachal Pradesh	1	Una, Himachal Pradesh	9.95
<b>TOTAL</b>	<b>21</b>		<b>207.62</b>

Gokul Gram at Varanasi, Uttar Pradesh

Gokul Gram at Varanasi, Uttar Pradesh  
Veterinary Dispensary

Gokul Gram at Pohra, Maharashtra (Gaolao Cow Herd)



### 3.1.3.1.2 National Kamdhenu Breeding Centre

**3.1.3.1.2.1** National Kamdhenu Breeding Centres are being set up as the Centre of Excellence. A Nucleus Herd of all the Indigenous Bovine Breeds (43 breeds of Cattle and 16 breeds of Buffaloes) are being conserved and developed with the aim of enhancing their productivity and upgrading their genetic makeup. An amount of Rs 25 crore each has been released to Madhya Pradesh and Andhra

Pradesh for establishment of two National Kamdhenu Breeding Centres, one each at northern and southern region of the country respectively. The National Kamdhenu Breeding Centres (NKBC) act as the repository of indigenous germplasm of all indigenous breeds and supply certified germplasm to the farmers undertaking rearing of indigenous breeds and increasing their stock.

**3.1.3.1.2.2** Establishment of NKBC in Andhra Pradesh at Chintaladevi located in Nellore District has been completed. This NKBC has been established in 700 acres of land. A total of 414 bovines of 17 breeds have been kept till date in the centre.

**3.1.3.1.2.3** Northern Region NKBC in Madhya Pradesh is being established at Kiratpur, in Hoshangabad, District. This center is being established in 400 acres of land. Work is under progress.



**LOCATED AT CHINTALADEVI, KONDAPURAM MANDAL, SPSR NELLORE DISTRICT**  
**NKBC, Chintaladevi**

**Cow Shed**





#### 3.1.3.1.3 Pashu Sanjivni:

#### 3.1.3.1.3.1 Reasons for initiation of the scheme

As per Integrated Sample Survey, 94 million cattle & buffaloes are in-milk but their records on breeding, productivity, treatment and vaccination were not properly maintained by the State Animal Husbandry Departments. System for maintaining records on the animals was not evolved in the country. Due to absence of records on animal

identification and traceability, it was not possible to separate healthy animals from diseased animals and animal products obtained from healthy animals and diseased animals. Lack of proper animal identification and traceability was major cause of the spread of animal as well as zoonotic diseases in the country. Country was also facing difficulty in expanding trade of milk & milk products as there was no established animal identification and traceability system to meet sanitary and phyto sanitary (SPS) requirements.

#### 3.1.3.1.3.2 Major activities undertaken under the scheme

Animal identification and traceability using polyurethane tags with 12 digit Animal Unique Identification Number (AUID) as per the method prescribed by International Committee on Animal Recording and uploading information of identified animals on Information Network for Animal Productivity and Health (INAPH) on online mode.

### 3.1.3.1.3.3 Technology for animal identification

Animals are being identified under the Pashu Sanjivni using poly urethane tags with 12 digit Animal unique identification number as per method developed by International Committee on Animal Recording. Animal Unique Identification (AUID) numbers are being generated by NDDB. NDDB has developed Information Network for Animal Productivity and Health (INAPH) and same has been used as National database for uploading breeding and

[illegible]

health related information on the cattle and buffaloes identified using polyurethane tags with 12 digit animal unique identification number (UID).

#### 3.1.3.1.3.4. Cost of the project:

An allocation of Rs 148 crore has been approved under the scheme for implementation of Pashu Sanjivani component and GoI share of Rs 85.74 crore has been released to the States. Cost of each tag approved under the scheme is Rs 8 and Rs 4 for each health card (Nakul Swasthya Patra).

#### 3.1.3.1.3.5 Major Outcomes:

The component Pashu Sanjivni will help in: i) traceability and tracking of animals for health and productivity; ii) Control on spread of animal diseases through tagging and targeted vaccination; iii) Scientific management of animals for better health and reproduction; iv)

Enhanced production and productivity; v) Improvement in quality of livestock & livestock products and vi) Increase in trade of livestock and livestock products by meeting out SPS issues.

#### **3.1.3.1.3.6 Present Status:**

Funds for the Pashu Sanjivni Scheme have been released to the States and so far 20.52 million animals in milk have been tagged and their data have been uploaded on INAPH data base. Health cards have been issued to 80 lakh animals in milk.

### **3.1.3.2 Breed Improvement by Modern Reproductive Techniques**

#### **3.1.3.2.1 Establishment of Sexed semen Production Facility:**

With mechanization of Agriculture, utility of male bovines have reduced. Farmers are not willing to maintain Bullocks for agriculture or any other draft work. Hence, male calves born at farmer's house have become a liability. Due to religious reasons culling of male bovines is difficult in most part of the country. Farmers often let the male calves loose which are resulting into increase in stray animal population. Only female calves can be produced (with more than 90% accuracy) by use of latest technology like Sexed Semen in AI program. This technology can be a game changer for India. This technology was only available with USA. For the first time in the country, sexed semen production facility is being created at 10 A graded semen stations with an allocation of Rs 475 crores. Extensive use of this technology will not only address the stray animal issue but would also increase the number of female animals thereby increasing income of farmers by sale of female or through sale of milk.

#### **3.1.3.2.2 Present Status**

Projects for establishing facility of Sexed Semen Production from Uttarakhand (1), Maharashtra (1), Telangana (1), Tamil Nadu (1), Haryana (1), Karnataka (1), Gujarat (1), Uttar Pradesh (1), Kerala (1) and Madhya Pradesh (1) have been sanctioned. Sexed semen production for indigenous breeds has been started from 15th October 2018 in Maharashtra and in Uttarakhand, semen production has started from February 2019.

#### **3.1.3.2.3 Pilot Project on use of Sexed semen**

In order to create awareness among the farmers, a pilot project on AI with sexed semen has been initiated in 5 districts of the country. 2500 animals are being covered through AI with sexed semen of indigenous breeds in each district. AI services are being provided free of cost at farmers' doorstep. Identified farmers are being supported with mineral mixture @ 10kg/animal, deworming etc and selected animals are being covered through estrus synchronization. The farmers with animals conceived through sexed semen will get high yielding indigenous breed female calves. As on 31.3.2019, 9316 animals have been covered through use of sexed semen.

#### **3.1.3.2.2 Embryo Transfer Technology (ETT) & In-Vitro Fertilization (IVF):**

**3.1.3.2.2.1 Embryo Transfer (ET)** normally means collection of an embryo from a donor female and its transfer to female, which carries it to full term. Through a method called "Superovulation", the donors can be made to produce more number of eggs in a cycle (normally a cow or a buffalo sheds only one egg) by treating it with hormones. Thus, the harvest of embryos can be increased manifold through superovulation. This technique is popularly known as Multiple Ovulation and Embryo Transfer (MOET).

**3.1.3.2.2.2** The In Vivo production of embryos involves selection of superior animal (called as a donor) for a defined trait (Example-Milk volume, milk fat, milk protein, age at first calving etc), from the population followed by multiple injections of FSH hormone which is called Super-ovulation. This process leads to multiple ovulations from the donor cow. The Super-ovulated animal is bred by proven Sire or Semen of proven sire which leads to fertilization of multiple oocytes inside the donor uterus. Seven days after breeding (AI/Natural), the uterine horns are flushed to extract the embryos and ova (unfertilized, fertilized or degenerate). The embryos and ova are searched, washed and graded under the microscope. The embryos are loaded into the straws for transfers into the donor oestrus based synchronized cows/heifers (called as recipients) which may be genetically inferior or the embryos can be frozen for future use. On an average, 5 to 8 calves can be produced from one donor per year by transfers of In Vivo produced embryos.

**3.1.3.2.2.3** The In vitro embryo production (IVP) system involves four steps: (a) the recovery of oocytes from antral follicles may be from abattoir materials or live donors by follicle aspiration which is called as Ultrasound Guided Transvaginal Ovum Pick Up. (b) The in vitro maturation (IVM) of these oocytes (c) the in vitro fertilization (IVF) of the matured oocytes and (d) the in vitro culture (IVC) of the resulting embryos. These embryos can be transferred into the recipients or can be frozen for future use. The IVM, IVF and IVC are conducted in the presence of an incubator with controlled temperature and gas atmosphere mimicking the uterine conditions. On an average 30 calves can be

produced from one donor per year. The technology has been promoted by all advanced dairy nations for propagation of elite animals and production of high genetic merit bulls. The technology is used by all advanced dairy countries for production of High Genetic Merit bulls and bull mothers for use as donor animals.

**3.1.3.2.2.4** The ETT/IVF labs aims at the creation of an infrastructure for continuous production of 'seed stock' of genetically superior stock of different breeds of cattle and buffaloes, required under national goal as per National Action Plan (NAP), and a network to provide the benefits of the ET technology to milk producers at the village level.

**3.1.3.2.2.5** In order to meet requirement of bulls and elite bull mothers to produce future generation of bulls NAP envisages establishing 50 embryo transfer technology labs in the country by 2023-24. In the first Phase, 20 ETT labs with IVF facility are being established by 2020-21. From these labs 3000 High Yielding Indigenous Breed (HYIB) bulls will be produced to meet requirement of bulls at the semen stations and requirement of elite bull mothers at bull mother farms and ETT centres.

#### **3.1.3.2.2.6 Status:**

Projects for strengthening/ establishment of 30 ETT/IVF labs have been sanctioned. Out of 30 labs approved under the scheme, 10 labs have been made functional and work is going on at 20 ETT labs. During the year 2018-19, 772 embryos from elite animals of indigenous breeds have been produced and out of this, 564 embryos have been transferred and 60 male calves have born during the year. Present status of these labs is as under:



SN	ETT Lab	State	Embryos Produced	Embryos Transferred	Calves born	Embryos stored	Fund Released (in Rs. lakh)
1	Guntur	Andhra Pradesh	11	10	5	1	239
2	Bidaj	Gujarat	286	142	37	144	215
3	Palampur	Himachal Pradesh	0	2	0	0	195
4	Mattupatty	Kerala	23	11	2	12	248
5	Bhopal	Madhya Pradesh	136	148	29	14	394.5
6	BAIF, Pune	Maharashtra	0	0	0	0	507.48
7	Ludhiana	Punjab	44	44	13	0	433
8	Patiala		14	11	0	7	340.5
9	Barabanki	Uttar Pradesh	72	90	20	0	329.06
10	Kalsi, Dehradun	Uttarakhand	186	106	28	79	463.2
11	Hosur	Tamil Nadu	Work Under progress				454.87
12	National Kamdhenu Breeding Centre, Chintaladevi	Andhra Pradesh					250
13	Anjora Durg	Chhattisgarh					304
14	Motihari ( RPCAU)	Bihar					1352
15	Patna ( BASU)						806
16	National Kamdhenu Breeding Centre, Itarsi	Madhya Pradesh					250
17	Nagpur	Maharashtra					119
18	Namakkal	Tamil Nadu					100
19	Bareilly	Uttar Pradesh					160
20	LUVAS, Hisar	Haryana					583
21	PVNRTVU, Hyderabad	Telangana					583
22	Shirpur, Pune	Maharashtra					483
23	Harringhatta	West Bengal					450
24	CCBF, Alamadhi	Tamil Nadu					1000
25	CCBF, Andesh nagar	Uttar Pradesh					600
26	CCBF, Chiplima	Odisha					600
27	CCBF, Sunabeda	Odisha					600
28	CCBF, Dhamrod	Gujarat					600
29	CCBF, Hessarghatta	Karnataka					600
30	CCBF, Suratgarh	Rajasthan					600
Total			772	564	134	257	13859.61



FLUSHING OF DONOR COW



CALVES BORN OUT OF ETT

### 3.1.3.2.2.7 Centre of Excellence for Indigenous Breeds:

Centre of Excellence for Indigenous Breeds (CoEIB) are being established for providing training in ETT, IVF, Sexed Semen production, Genomics and re-training of skilled manpower in latest developments in breeding technologies. These centres will not only work as training centres but also act as Research & Development Centres. Germplasm produced at these centres will be made available to all the States. During Phase-I of Rashtriya Gokul Mission, by 2020-21, Centre of excellence will be established at Kalsi, Uttarakhand for Northern region, Bidaj, Gujarat for western region, Central Cattle Breeding Farm, (CCBF) Alamadhi for Southern region and Central Agricultural University, Pusa, Bihar with ETT centre located at KVK Motihari, Bihar for Eastern Region.

### 3.1.3.2.3 E PashuHaat Portal:

**3.1.3.2.3.1** For the first time in the country under the scheme National Mission on Bovine Productivity now subsumed under Rashtriya Gokul Mission, E PashuHaat portal has been developed for connecting breeders and farmers regarding availability of quality bovine germplasm. Through the portal, breeders/farmers can sell or purchase their

breeding stock. Information on all forms of germplasm including semen, embryos and live animals with all the agencies and stake holders in the country has been uploaded on the portal. Through this portal farmers will be aware about the availability of quality, disease free bovine germplasm with different agencies in the country. The portal will lead to propagation of high genetic merit germplasm. Through the portal, price evaluation will be available with the farmers/breeders. Through the portal, there will be no involvement of middlemen in sale and purchase of animals. Portal for sale and purchase of germplasm in all the forms is not available even in developed dairy countries. This portal will give new dimensions to development and conservation of indigenous breeds as at present information on availability of germplasm of indigenous breeds is not available with the farmers. Portal is also integrated with UMANG portal of Government of India. Details of the portal is now available with 1 crore farmers linked with UMANG portal. Efforts are being made to link the portal with Kisan Suvidha app.

**3.1.3.2.3.2** Information on 10.68 crore semen doses; 363 embryos and 18.11 lakh live animals is available on the portal as on date.

### E PASHU HAAT PORTAL

The screenshot displays the E Pashu Haat Portal, a digital platform for bovine germplasm. The header includes the Government of India emblem and the Department of Animal Husbandry, Dairying & Fisheries. The portal's URL is <https://epashuhaat.gov.in>. The main navigation bar lists categories: HOME, GERM PLASM MARKET PLACE, FAQ, E-LEARNING, SERVICES, LIVE STOCK, GET IN TOUCH, HELP DESK, and LOGIN. The central banner promotes the World Milk Day Celebrations 2017. To the right, a list of features highlights the portal's benefits: it serves as a one-stop portal for bovine sellers and buyers, minimizes middlemen involvement to increase farmer income, ensures availability of disease-free germplasm with known genetic merit, and provides a toll-free number (1800-180-1551) for more information. A prominent display shows 8,30,222 live animals available on the portal. The footer includes a search bar and system information.

### 3.1.3.2.4 National Bovine Genomic Centre for Indigenous Breeds (NBGC-IB)

In developed dairy countries, genomic selection is used to increase milk production and productivity for attaining faster genetic gain. In order to increase milk production and productivity of indigenous cattle, a National Bovine Genomic Centre is being established in the country. By using genomic selection, indigenous breeds can be made viable within few generations. This center will play crucial role in identification of disease free High genetic merit bulls of indigenous breeds.

The project is being implemented on consortium model by involving all the agencies having role in implementation of genomic selection in the country. The NBAGR has been identified as the nodal agency for implementation of Genomic selection.

Funds have been released to NBAGR and NDDB for development of genomic chip. A custom made genotyping chip (INDUSCHIP) which is suitable to genotype Indian cattle breeds and their crosses has been developed by NDDB, Anand in partnership with Sabarmati Ashram Gaushala (SAG), Bidaj. This chip will be used for genomic selection in Indigenous Bovines. Till date 10161 animals have been genotyped in order to create referral population. NBAGR has proposed to develop genomic chip with about 6 lakh Single Nucleotide Polymorphism (SNPs) by March 2020.

### 3.1.3.3. Awareness programme:

#### 3.1.3.3.1 National Gopal Ratna and Kamdhenu Awards:

In order to create awareness and reward for farmers and Institutions who are engaged in scientific management of recognized Indigenous cattle breeds, National Gopal Ratna and National Kamdhenu Awards have been instituted under Rashtriya Gokul Mission. Department of Animal Husbandry, Dairying

and Fisheries, Ministry of Agriculture and Farmers' Welfare, Government of India has bestowed 12 National Kamdhenu and 10 National Gopal Ratna Awards for the first time in 2017-18 on the World Milk Day- 1st of June 2017. On similar lines, on 1st June 2018 (World Milk Day) 62 farmers and Institutes were rewarded various awards under the scheme for scientific and professional management of Indigenous Breeds.

### 3.1.3.3.2 Krishi Kalyan Abhiyan

**3.1.3.3.2.1** AI coverage with High Yielding Indigenous Breeds (HYIB) bovine semen : Artificial insemination is a proven technology in India for enhancing milk production and productivity of bovines. In the 112 aspirational districts identified by Niti Aayog, AI coverage ranges between 10 to 15% on an average against the country average of about 30%. This indicates poor implementation of breeding programme in these districts. Due to low AI coverage, farmers are not getting benefits of productivity enhancement programme. In order to make milk production more remunerative to the farmers and to enhance AI coverage in these districts, AI with HYIB bovine semen has been initiated in 112 aspirational districts.

**3.1.3.3.2.2** Under the programme, AI services are delivered at farmers' doorstep in identified villages of each 112 aspirational districts. HYIB bull semen used for AI has dam's lactation yield above 3000 kgs/lactation. Under the programme AI services are being delivered to farmers free of cost. Provision of Rs 25 per HYIB bull frozen semen straw made available to implementing agencies and an incentive @ Rs 50 /AI made available to AI technicians for performing AI using semen of HYIB bulls and an additional incentive of @ Rs 100 per calf born is also made available to AI technicians under the scheme. This will promote AI using semen of indigenous breeds and lead to development and conservation of indigenous breeds.



**3.1.3.3.2.3** All the animals covered under the programme are being identified using Animal UID (AUID) and their data is being uploaded on INAPH data base. After AI, the animal is being followed up and all the events are being recorded on the database till the birth of the calf. Tablets made available under Pashu Sanjivni component of RGM are being used by AI technicians for uploading data on INAPH database. AI technicians are also allowed to enter data on printed sheets. In case tablets not made available by Implementing Agencies, information is being uploaded on offline mode on INAPH data base.



#### **3.1.3.3.2.4 Phase-I**

For enhancing AI coverage in 112 aspirational districts, an amount of Rs 973 lakh has been released for covering 25 identified villages in each of 112 aspirational districts. The programme has been implemented from 1st of June 2018 to 15th Aug 2018. During Phase-I, 1.31 lakh A.I's have been performed using HYIB bull semen in 112 aspirational districts.

#### **3.1.3.3.2.5 Phase-II**

Additional 100 villages in addition to 25 villages covered during Phase I have been covered under AI with HYIB semen during Phase-II from 2nd October 2018 to 26th January 2019. The Phase-II has been implemented with an allocation of Rs 32.5 Crores. During Phase-II, 4.39 lakh A.Is have been performed using HYIB bull semen. It is envisaged that 75,000 female calves will be added to the milch herd in these districts.

#### **3.1.3.3.2.6 Phase-III**

During Phase-III AI with HYIB is being implemented in additional 100 villages of 112 aspirational districts covering 8.9 lakh breedable bovine population. Programme is being implemented from 15th January to 15th April 2019 with an allocation of Rs 20.50 Crore and as on date 3.41 lakh A.Is have been performed under phase III.

#### **3.1.3.3.3 Organization of Fertility Camps**

In order to improve the fertility of milch animals so that animals give birth to calves within the average calving intervals, funds have been released to the States for organization of fertility camps. During 2018-19, 15360 camps have been organised at the rate of 2 camps per block per year.

#### **3.1.3.4. Enhancement of production and Productivity:**

##### **3.1.3.4.1 Field Performance Recording (FPR)**

Field Performance Recording (FPR) plays a crucial role in identification and propagation of elite animals of indigenous breeds. Funds have been released to the States including funds released under NDP-I and 55,651 animals of indigenous breeds have been covered under FPR.

##### **3.1.3.4.2 Progeny Testing:**

Milk production is a sex limited trait therefore genetic potential of the bull is estimated by the performance of the daughters. The scientific breeding method for estimating predicted transmitting ability of bulls on daughters' performance is termed as progeny testing. Organised Progeny Testing Programme

- Semen production increased from 88 million doses in 2014-15 to 115 million doses in 2017-18.
- During 2017-18, 76 million AIs performed
- Conception rate increased from 20% to 35%

(PTP) has been initiated under NDP-I and 14 projects have been implemented in the country. These projects will be subsumed under Rashtriya Gokul Mission after March 2019. Details of the projects implemented under NDP-I are as under:

S. No	Organization	Breed	No of bulls produced during 2018-19
1	ABRO	Murrah	29
2	KMF	HF	9
3	Banas	Mehsana	0
4	Mehsana	Mehsana	21
5	SAG CBHF	CBHF	29
6	SAG	Gir	22
7	SAG Murrah	Murrah	40
8	APLDA	CBJY	41
9	TCMPF	CBJY	15
10	PLDB	Murrah	43
11	KLDB	CBHF	23
12	HLDB	Murrah	73
13	ULDB	CBHF	17
14	BAIF	CBHF	45
	<b>PT Total</b>		<b>407</b>

### 3.1.3.4.3 Pedigree Selection Programme:

Pedigree selection programme has been initiated under NDP-I for those indigenous breeds which have limited population and AI infrastructure is also not available in the area. Under the programme, male calves are selected on the basis of pedigree details and performance of dam, sire and other ancestors in the pedigree. The pedigree selection programme initiated under

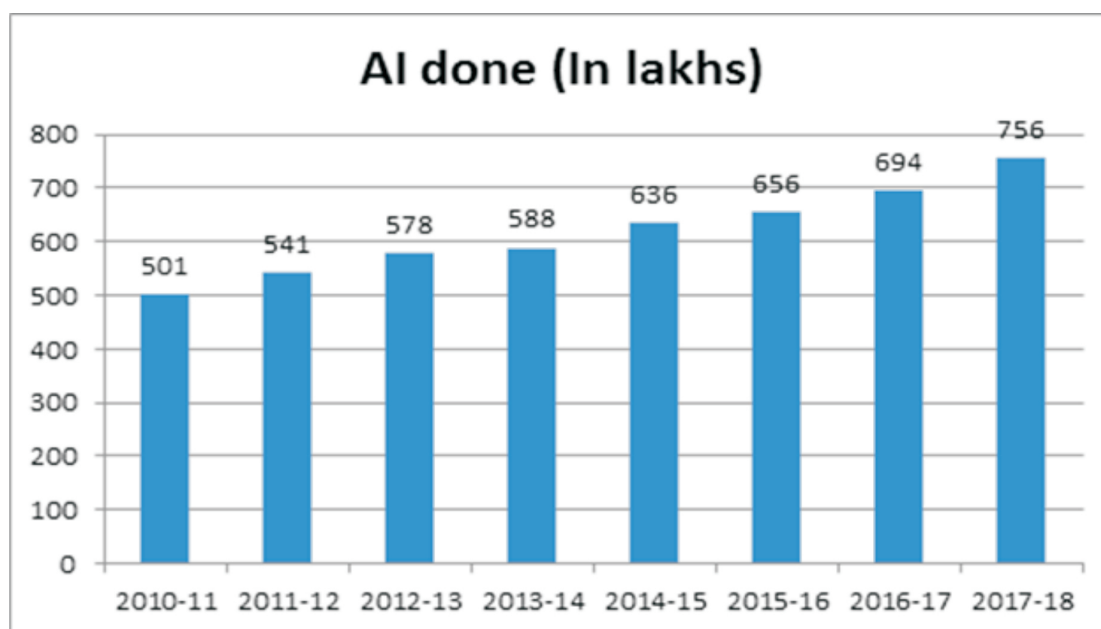
NDP-I has been subsumed under RGM after March 2019. The details of the pedigree selection programmes implemented under NDP-I are as under:

S. No.	Project	Breed	No of bulls produced during 2018-19
1	Haryana Livestock Development Board (HLDB)	Haryana	29
2	Banas, Gujarat	Kankrej	0
3	SAG, Bidaj	Jaffarabadi	3
4	Maharashtra Livestock Development Board (MLDB)	Pandharpuri	6
5	Gangmul	Sahiwal	7
6	Punjab Livestock Development Board (PLDB)	Sahiwal	4
7	Punjab Livestock development Board (PLDB)	Nili Ravi	2
8	Rajasthan Livestock Development Board (RLDB)	Tharparkar	5
9	URMUL Trust, Rajasthan	Rathi	8
	<b>PS Total</b>		<b>64</b>

### 3.1.3.5 EXTENSION OF AI COVERAGE

#### 3.1.3.5.1.1 Artificial Insemination coverage

Artificial insemination is a proven technology for enhancing milk production and productivity of bovines. At present, AI coverage in the country is limited to 30% of the breedable bovines and 70% of the breedable animals are covered through scrub bulls of unknown genetic merit. During 2017-18, 76 million AI's were performed in the country.



The Performance of various agencies on AI coverage in the country during 2017-18 is given in the following table:

S. No	Agency	No of AI technicians	No of AI conducted (in lakh)	No of AI per AI technician
1.	Department of Animal Husbandry	57351	346.69	605
2.	Dairy Cooperatives	23990	184.66	770
3.	Other Agencies	31923	226.56	710
	Total	113264	757.91	669

### 3.1.3.5.1.2 State Wise AI coverage:

State wise AI coverage in the country is given in the following Table. Assam has the lowest AI coverage of 3.88% while in Kerala, 100% of the breedable bovine females are under AI coverage.

S. No.	States	Breedable Bovine Females in lakh	Dept. of AH		Other Agencies *		Coop. Unions		Total AIC	Total AI performed In lakh	AI coverage in %
			AI Centres in No	AI performed in lakh	AI Centres in No	AI performed in lakh	AI Centres in No	AI performed in lakh			
1	Andhra Pradesh	60	3021	19.70	2703	21.02	753	3.26	6477	43.98	37.59
2	Arunachal Pradesh	1.39	50	0.03	0	0.00	0	0.00	50	0.03	0.97
3	Assam	36.19	1275	2.35	0	0.00	110	0.39	1385	2.74	3.88
4	Bihar	95.54	804	3.70	250	2.95	3785	23.35	4839	29.99	16.10
5	Chattisgarh	36.35	1209	4.85	856	2.51	30	0.23	2095	7.59	10.71
6	Goa	0.4	82	0.19	0	0.00	21	0.14	103	0.33	42.59
7	Gujarat	95.99	1542	15.76	5471	3.98	6541	58.50	13554	78.23	41.80

S. No.	States	Breedable Bovine Females in lakh	Dept. of AH		Other Agencies *		Coop. Unions		Total AIC	Total AI performed In lakh	AI coverage in %
			AI Centres in No	AI performed in lakh	AI Centres in No	AI performed in lakh	AI Centres in No	AI performed in lakh			
8	Himachal Pradesh	13.64	3090	10.09	1	0.003	0	0.00	3091	10.09	37.94
9	Haryana	37.05	2796	30.44	1000	9.43	115	0.45	3911	40.31	55.80
10	Jammu & Kashmir	16.35	1256	9.66	0	0.00	0	0.00	1256	9.66	30.28
11	Jharkhand	29.58	720	2.76	1010	6.77	7	0.01	1737	9.54	16.54
12	Karnataka	63.7	4318	31.32	151	1.23	3115	36.0	7584	67.00	53.94
13	Kerala	6.64	2506	12.08	224	0.94	210	1.38	2940	14.41	100
14	Madhya Pradesh	109.9	2820	17.43	2240	3.69	1180	6.22	6240	27.34	12.76
15	Maharashtra	86.75	4847	23.06	1344	16.61	821	6.65	7012	46.32	27.38
16	Manipur	1.14	54	0.13	2	0.004	0	0.00	56	0.13	6.04
17	Meghalaya	3.35	65	0.21	0	0.00	0	0.00	65	0.21	3.26
18	Mizoram	0.17	58	0.05	12	0.007	0	0.00	70	0.06	17.78
19	Nagaland	0.94	52	0.08	41	0.16	4	0.10	97	0.33	18.10
20	Odisha	36.42	3007	8.59	1077	3.90	1093	1.75	5177	14.24	20.05
21	Punjab	40.7	3527	31.73	1260	7.71	1223	7.45	6010	46.89	59.09
22	Rajasthan	132.75	5409	24.05	1392	15.25	900	5.41	7701	44.71	17.27
23	Sikkim	0.6	147	0.12	0	0.00	0	0.00	147	0.12	9.89
24	Tamil Nadu	47.8	3579	44.96	1973	5.07	2792	20.27	8344	70.30	75.42
25	Telangana	35	3342	13.89	65	0.65	75	2.25	3482	16.72	24.50
26	Tripura	3.37	436	0.70	168	0.83	0	0.00	604	1.53	23.24
27	Uttar Pradesh	240.11	5049	32.27	6651	91.88	728	4.39	12428	128.46	27.44
28	Uttarakhand	13.78	680	2.98	22	0.10	22	3.42	724	6.50	24.19
29	West Bengal	64.21	1610	3.59	4010	31.87	465	3.10	6085	38.57	30.80
	<b>Total</b>	<b>1305.46</b>	<b>57351</b>	<b>346.69</b>	<b>31923</b>	<b>226.56</b>	<b>23990</b>	<b>184.66</b>	<b>113264</b>	<b>756.34</b>	<b>29.71</b>

### 3.1.3.5.2 Establishment of Multipurpose AI Technicians in Rural India (MAITRIs)

Multipurpose AI Technicians in Rural India (MAITRIs) have been established in order to deliver breeding inputs at farmers' doorstep. MAITRIs are trained at accredited AI training institutes over a duration of 3 months (90 days). During training period, stipend has been made available to MAITRIs at the rate of Rs 1500 per month (PM) and tapering grant is made

available during initial period of three months at the rate of Rs 1500 PM during first year, Rs.1200 PM during 2nd year and Rs 800 PM during third year. Grant for equipments at the rate of Rs 60,000 per MAITRI is made available to the concerned States. After 3 years, MAITRIs are self-sustainable through recovery of cost of goods and services. As on date 6506 MAITRIs have been established under the scheme.



### 3.1.3.5.3 Strengthening of field AI network

Under the RGM funds have been released to the States for conversion of stationary AI centres into mobile AI centres by making available portable cryocontainer, AI kits with universal guns and mother container at the rate of 1 per 5 AI centres. Assistance is also made available to the States for replacement of unserviceable cryocontainers and AI kits. Upto 2018-19, 19,372 existing AI centres have been strengthened.

### 3.1.3.5.4 Strengthening of Liquid nitrogen storage, transport and distribution system

It is estimated that 0.5 litres of LN is required per AI performed. Thus infrastructure for handling 34 million litres of Liquid nitrogen is required in the country. Funds have been released to the States for streamlining bulk storage, transport and distribution system for liquid nitrogen in the country. Funds have been released to the NER States for procurement of LN plants. Manipur and Meghalaya are procuring LN plants from the funds released during 2018-19. Infrastructure for handling 34 million liters of LN nitrogen has been created in the country under RGM.

### 3.1.3.5.5 Strengthening of AI Training Infrastructure

At present 91 AI training institutes are available in the country, which are imparting training to AI technicians and paravets. Central Monitoring Unit has been constituted by the Department for

evaluation of AI training institutes. As per evaluation conducted during 2018-19, there are 28 AI centres as per MSP and SOPs formulated by the Department of Animal Husbandry and Dairying. Funds have been released to the States for strengthening of AI training institutes and also for establishment of regional training institutes. Upto 2018-19, 41 AI training institutes have been strengthened as per MSP and SOPs of GoI. Uniform training module have also been developed and circulated among all the States. Funds have been released to the States for establishment of 5 regional training institutes.

### 3.1.3.5.6.1 Strengthening of Semen Stations:

Out of 54 Semen Stations in Central/State/Semi Government / Non - Governmental Organisations ( NGO's), 28 Semen Stations have been strengthened and the work in under progress.

### 3.1.3.5.6.2 Evaluation of Semen stations:

In order to attain qualitative and quantitative improvement in semen production, Central Monitoring Unit (CMU) was constituted on 20.5.2004 by the Department for evaluation and grading of semen stations once in two years. The CMU has since undertaken evaluation on six occasions. Improvement in grading of semen stations after constitution of CMU is presented in table 1 and state wise grading of semen stations is given at table 2.

Table : 1.Grading of semen stations over the years

Grades	2005	2009	2011	2013	2016	2018
A	2	12	20	30	37	28
B	12	15	17	15	14	8
C	12	7	3	-	-	-
Not Graded (NG)	33	13	7	5	2	6
Not Evaluated (NE)	-	2	2	2	5	11
Total	59	49	49	52	58	53

3.1.3.5.6.3 As per the report on evaluation of semen stations for 2018, a total of 36 semen stations have been graded, out of which 28 have been awarded A grade and 8 stations with B grade. 6 semen stations were not graded by CMU.

Table.2. State-wise distribution of semen stations with the grades awarded

Sl. No.	State	Grade A	Grade B	Not Graded	NE	Total Stations
		80 & above	66 to 79	Below 65		
1	Andhra Pradesh			2	1	3
2	Assam	1				1
3	Bihar				1	1
4	Chhattisgarh	1				1
5	Gujarat	4	1			5
6	Haryana	3	1		1	5
7	Himachal Pradesh	1				1
8	Jammu & Kashmir				2	2
9	Karnataka	3	1		1	5
10	Kerala	2			1	3
11	Madhya Pradesh	1				1
12	Maharashtra	3	1		1	5

13	Meghalaya			1		1
14	Odisha				1	1
15	Punjab	1	2			3
16	Rajasthan	1	1			2
17	Tamil Nadu	2	1	2		5
18	Telangana			1		1
19	Uttarakhand	1				1
20	Uttar Pradesh	1			2	3
21	West Bengal	3				3
<b>Total</b>		<b>28</b>	<b>8</b>	<b>6</b>	<b>11</b>	<b>53</b>

#### 3.1.3.5.6.4 Minimum Standard Protocol (MSP) for Semen Production

In order to produce frozen semen of uniform quality, a Minimum Standard Protocol (MSP) for semen production was developed in consultation with experts from BAIF, NDDB, NDRI (Karnal) and CFSP&TI and the same was made effective from 20th May, 2004. Keeping in view of the recent developments in semen processing technology, MSP for semen production has been updated in 2018-19 and made available to all the semen stations in the country.

#### 3.1.3.5.6.5 ISO Certification of semen stations

At present, thirty nine semen stations are ISO certified. Three semen stations namely Jind (Haryana), Shillong (Meghalaya) and District Livestock Farm, Hosur (Tamil Nadu) are under process to obtain ISO certification.

#### 3.1.3.5.7 Manpower Development:

**3.1.3.5.7.1** Under the scheme, hands on training in Embryo Transfer Technology (ETT) was imparted to 52 professionals. ETT trainings for professionals were conducted at Kalsi, Dehradun, Uttarakhand; Mattupatty, Kerala; Jabalpur, Madhya Pradesh and IVRI, Bareilly Izatnagar. In-vitro Fertilization training for 6 participants was imparted at Kalsi, Dehradun from 15th January to 4th February 2019. Training on ETT was imparted to 12 candidates at KLDB, Mattupatty during February and March 2019.

**3.1.3.5.7.2** During 2018-19, 128 professionals

were trained in latest developments in frozen semen technology and database management/INAPH. Refresher training in artificial insemination has been imparted to 9723 existing AI technicians/ MAITRI's. Basic training in AI has been given to 2197 Multi Purpose AI Technicians in Rural India (MAITRI's).

#### 3.1 Breed Improvement Institutes

**3.2.1** Introduction: These Central Cattle Development Organizations include seven Central Cattle Breeding Farms, one Central Frozen Semen Production and Training Institute and four Central Herd Registration Units established in different regions of the country to produce genetically superior bull calves, quality frozen semen from High Genetic Merit Bulls (HGM) and for identification and location of superior germplasm of indigenous breeds of cattle and buffaloes, so as to meet the requirement of HGM bulls and frozen semen doses in the country. These organizations have also been playing important role in training of manpower in frozen semen technology.

#### 3.2.2 Central Cattle Breeding Farms (CCBFs)

**3.2.2.1** Breeding is one of the important tools to facilitate production potentials and bring about progressive genetic improvement in production on a long term basis in animals. Central Cattle Breeding Farms were introduced by Govt. of India in various agro climatic zones of the country between 1968 to 1976 under various five

year plans. Their main aim is to make available germplasm with high genetic potential of important indigenous and exotic cattle breeds (Holstein Friesian and Jersey) within the country so as to serve as a backbone of the dairy industry. These farms have played crucial role in supply of breeding inputs in the form of disease free HGM bulls of indigenous and exotic breeds and frozen semen doses.

**3.2.2.2** There are seven Central Cattle Breeding Farms (CCBFs) located at Alamadhi (Tamil Nadu), Andeshnagar (UP), Chiplima & Sunabeda (Odisha), Dhamrod (Gujarat), Hessarghatta (Karnataka) and Suratgarh (Rajasthan). These CCBFs are engaged in scientific breeding of cattle and buffaloes with the aim of production of high pedigreed bulls for genetic upgradation programmes. Besides, these farms are also providing awareness training to the farmers and breeders.

**3.2.2.3** These farms are producing high pedigreed bull calves of indigenous, exotic breeds of cattle and important buffalo breeds for distribution to State Governments, Breeding Agencies, NGOs, Co-operatives etc. The bull calves are produced from indigenous breeds viz. Tharparkar, Red Sindhi, Exotic Breeds viz. Jersey, Holstein Friesian, Buffalo breeds viz. Murrah and Surti and crossbred bulls of Jersey X Red Sindhi and Holstein Friesian X Tharparkar.

#### **3.2.2.4 Objectives:**

**Mandate of these farms is as under:**

- (i) Progressive genetic improvement of herd for Milk Production and other important traits like calving interval, days open and days dry through scientific selection and organized breeding plan.
- (ii) Development and conservation of superior germplasm of various cattle and buffalo breeds.
- (iii) Production and distribution of high genetic merit (HGM) bulls to different

Breeding Agencies for semen production.

- (iv) Demonstration of scientific breeding and farm management practices to the technical personnel extension workers and farmers.

#### **3.2.2.5 Functions:**

##### **3.2.2.5.1 Progressive Genetic improvement of stock:**

Through scientific breed improvement programme using progeny tested and imported semen progressive genetic improvement is being undertaken at these farms. Animals are selected towards short calving interval, days open and days dry.

##### **3.2.2.5.2 Development & conservation of indigenous breeds**

Indigenous breeds like Red Sindhi and Tharparkar breed of cattle and Surti breed of buffalo are being developed and conserved at these farms. HGM bulls of these breeds are being made available to semen stations with the State Governments and other agencies. CCBF Chiplima is important source of Red Sindhi germplasm for use in breeding programmes being implemented by the States and other agencies in the country.

##### **3.2.2.5.3 Production & distribution of elite bull calves:**

Disease free high genetic merit male calves produced at these farms through scientific breeding by using semen of progeny tested bulls and imported semen in case of exotic breeds of cattle. High genetic merit bulls disease free bulls are made available to the States and other agencies for semen production.

##### **3.2.2.6 CCBF, Alamadhi:**

The Central Cattle Breeding Farm, Alamadhi, Chennai, located at (Avadi), Alamadhi, Chennai was established in 1973 with aim of promoting Murrah breed of buffalo in the southern region and to meet requirement of HGM bulls of



Murrah breed in the region. The farm is spread over an area of 214.98 hectare. The farm houses Murrah buffaloes and present herd strength is 284 animals. During 2018-19, the farm produced 40 HGM Bull calves and sold 21 HGM bull calves to the States. Besides, the farm trained 661 farmers during the period. The farm is proposed to be converted into Centre of Excellence with state-of- art ETT /IVF lab and training centre for training of professionals and scientists working the field for southern region.

### **3.2.2.7 CCBF, Dhamrod:**

The Central Cattle Breeding Farm, Dhamrod is located in the State of Gujarat in the District of Surat. The farm was established during 1968 with Surti buffalo breed, with aim and objective to produce superior high pedigreed Surti bull calves for propagation and breeding purpose throughout the country and also to conserve this indigenous breed. The farm strength is 421 animals. During 2018-2019, the farm produced 79 Bull calves and sold 15 bull calves to the States. Besides, the farm trained 347 farmers during this period. The farm is being maintained as a conservation farm for Surti breed of buffalo as limited population of this breed is available in the country. It has been decided to replace low productive Surti stock with the Gir breed of cattle which is in more demand and performs optimally in this location. At this farm state-of- art ETT /IVF lab and training centre for training of professionals and farmers will be established.

### **3.2.2.8 CCBF, Andeshnagar:**

The Central Cattle Breeding Farm, Andeshnagar is located in the State of Uttar Pradesh about 13 Km's away from Lakhimpur- Kheri . The farm was established during 1976 and houses Murrah breed of buffalo and crosses of Holstein Friesian X Tharparkar. The farm strength is 637 animals. During 2018-19, the farm produced 65 Bull

calves and sold 59 bull calves to the States. Besides, the farm trained 550 farmers during this period. The farms will be converted into Centre of Excellence with state-of- art ETT /IVF lab and training centre for training of professionals and scientists working the field for northern region.

### **3.2.2.9 CCBF, Chiplima:**

The Central Cattle Breeding Farm, Chiplima is located at Basantpur, district Sambalpur in the State of Odisha. The farm was established during 1968 and houses Red Sindhi breed of cattle and cross breeds of Jersey X Red Sindhi. The farm strength is 303 animals. During 2018-19, the farm produced 41 Bull calves and sold 9 bull calves to the States. Besides, the farm trained 589 farmers during this period. The farms will be converted into Centre of Excellence with state-of- art ETT /IVF lab and training centre for training of professionals and scientists working the field for eastern region.

### **3.2.2.10 CCBF, Sunabeda:**

The Central Cattle Breeding Farm, Chiplima is located at Sunabeda, District Koraput in Odisha State. The farm was established during 1972 and houses exotic Jersey breed of cattle. The farm strength is 473 animals. During 2018-19, the farm produced 57 Bull calves and sold 37 bull calves to the States. Besides, the farm trained 531 farmers during this period. At this farm State-of- art ETT /IVF lab and training centre for training of professionals and farmers will be established.

### **3.2.2.11 CCBF, Hessarghatta:**

The Central Cattle Breeding Farm, Hessarghatta is located at Hesaraghatta, District Bangalore in Karnataka State. The farm was established during 1976 and houses exotic Holstein Friesian breed of cattle. The farm strength is 177 animals. During 2018-19, the farm produced 20 Bull calves and sold 23 bull calves to the States. Besides, the farm trained 433 number of farmers

during this period. At this farm state-of- art ETT /IVF lab and training centre for training of professionals and farmers will be established.

### 3.2.2.12 CCBF, Suratgarh:

The Central Cattle Breeding Farm, Suratgarh is located at Suratgarh, District Sriganganagar in Rajasthan State. The farm was established

during 1967 and houses indigenous stock of Tharparkar breed of cattle. The farm strength is 529 animals. During 2018-19, the farm produced 65 Bull calves and sold 64 bull calves to the States. Besides, the farm trained 813 number of farmers during this period. At this farm State-of- art ETT /IVF lab and training centre for training of professionals and farmers will be established.



(Tharparkar Calves)



(Tharparkar Cow)



( Tharparkar Cows)



### 3.2.3 Overall Physical Progress

These farms produced 364 nos. of bull calves, sold 378 bull calves to farmers and to State Breeding Farms and trained 3924 nos. of the

farmers in dairy farm management during the year 2018-19. Parameter wise physical progress made during 2018-19 is presented in the following table:

Sl No	Parameters	Alamadhi	Andesh Nagar	Chiplima	Dhamrod	Hessarghatta	Sunabeda	Suratgarh	Total
1	Bull calf Production	40	65	41	79	20	57	62	364
2	Bull Calf sold	21	59	9	15	23	37	64	378
3	No. of Farmers trained	661	550	589	347	433	531	813	3924

### 3.2.3 Vision

3.2.3.1 Advanced dairying nations have introduced genomic selection and demonstrated faster genetic gain with genomic selection. These nations have doubled the increase in production and productivity of bovines through implementation of genomic selection since 2001. The need for the hour is to implement genomic selection programme for our indigenous breeds as genomic selection methods developed in advanced dairying nations are appropriate for exotic breeds like Holstein Friesian and Jersey. For implementing genomic selection procedures for indigenous breeds, there is a need to develop our own genomic selection procedures including development of Single Nucleotide Polymorphism (SNP) chips and prediction equation. The Central Cattle Breeding farms can play important role in development of referral population genotyped and phenotyped for implementation of genomic selection in India as envisaged under Rashtriya Gokul Mission (RGM).

3.2.3.2 As per National Action Plan (NAP), 8847 HGM bulls are required in the country to extend present AI coverage from the level of 30% to 70% of the breedable bovine females by 2021-22. At present 4768 bulls are available at our semen stations and 115 million doses of semen have been produced during 2017-18. In addition 20% of the bulls with low productive potential are required to be replaced annually. Through PT and PS projects initiated under NDP-demand of 1000 HGM bulls can be met annually therefore remaining bulls are required to be met from other sources.

3.2.3.3 To meet the demand of bulls there is need to promote embryo transfer technology (ETT) and in vitro fertilization (IVF) for producing high genetic merit male calves from elite bull mothers. The CCBFs can play important role in identification of elite bull mother of different breeds of cattle and buffaloes suitable for IVF and ETT. RGM envisages to produce 3000 High Yielding Indigenous Breed (HYIB) bulls through ETT/IVF technology.

### 3.2.3.4 Regular replacement of herd:

The CCBFs will be strengthened by replacing low productive animals and inducting animals of higher productivity in order to improve genetic make of the herd available at these farms. For this purpose, the minimum standards (MSP) have been revised for various breeds of cattle and buffalo maintained at these farms. Only animals above MSP will be maintained at these farms.

### 3.2.3.5 Embryo Transfer technology (ETT) /in-Vitro Fertilization (IVF) labs:

The ETT lab/IVF centre is being established at each of the CCBFs in order to super-ovulate elite females available at these farms and to produce HGM male calves for use in breeding programmes being implemented by the States.

### 3.2.3.6 Establishment of Centre of Excellence

In order to meet the demand of HGM bulls the CCBFs will be converted into Centres of Excellence (CoE). The CoE will not only provide HGM male calves but also act as the training centre for training of manpower required in the country for implementation of scientific genetic upgradation programmes. State-of-the-art facilities will be created for ETT/IVF, genomic selection and training at the Centres of Excellence.

### 3.2.3.7 Progeny Testing Programme (PTP)

These farms will be participating in progeny testing programme being implemented under NDP-I. Only progeny tested proven bull semen will be used for nominated AI and male calves will be put under progeny testing. The female calves will be used in replacement of herd for improving genetic make of the herd and to attain genetic gain of atleast 10% annually.

## 3.2.4 Central Herd Registration Scheme (CHRS):

### 3.2.4.1 Introduction:

The Department is implementing a Central Herd Registration Scheme (CHRS) for registration of elite cows and buffaloes and to provide incentive for rearing of elite cows and male calves. The aim of the scheme is to undertake identification and propagation of superior germplasm of indigenous breeds in the breeding tract through field performance recording and arrange breeding of selected cows with high genetic merit bulls. The scheme is playing crucial role in development and conservation of indigenous breeds.

### 3.2.4.2 Structure of the scheme:

Under the scheme there are 4 CHRS units located at Rohtak, Ahmedabad, Ajmer and Ongole. There are 96 milk recording centers to undertake field performance recording (FPR). The scheme is covering 14 indigenous breeds of cattle and buffalo in 9 States. The data is uploaded on the INAPH data base and animals are identified using 12 digit Animal Unique Identification (AUID) number. Guidelines of International Committee on Animal Recording are followed under the scheme.

### 3.2.4.3 CHR Unit Rohtak

This Unit was established in 1963. The unit has 33 recording centers for undertaking milk recording in the field. The indigenous breeds covered are Haryana, Sahiwal, Red Sindhi and Gir breeds of cattle and Murrah and Nili Ravi breeds of buffalo. The States covered by the unit are Haryana, Uttar Pradesh, Punjab, Uttarakhand and Delhi.

**3.2.4.4 Achievements:**

In 2018-19, 16,458 elite Cows & Buffaloes conforming to breed characteristics were brought under the FPR. Achievements made during 2018-19 are as under:

Primary Registration	No. of Animals Finally Registered	Breeders Awareness / Publicity Camps held	No. of Persons trained
6141	3940	50	162

**3.2.4.5 CHR unit, Ahmedabad**

3.2.4.5.1 This Unit was established in 1969. The unit has 42 recording centers for undertaking milk recording in the field. The indigenous breeds covered are Gir, Kankrej breeds of cattle and Surti, Jaffrabadi, Mehsani, Pandharpuri breeds of buffalo. The States covered by the unit are Gujarat and Maharashtra.

**3.2.4.5.2 Achievements:**

In 2018-19, 11,214 elite Cows & Buffaloes conforming to breed characteristics were brought under the FPR. Achievements made during 2018-19 are as under:

Primary Registration	No. of Animals Finally Registered	Breeders Awareness / Publicity Camps held	No. of Persons trained
4383	3705	65	167

**3.2.4.6 CHR unit, Ajmer**

3.2.4.6.1 This Unit was established in 1979. The unit has 11 recording centers for undertaking milk recording in the field. The indigenous breeds covered are Gir, Rathi, Tharparkar breeds of cattle and Murrah breed of buffalo. The State covered by the unit is Rajasthan.

**3.2.4.6.2 Achievements:**

In 2018-19 3,472 elite Cows & Buffaloes conforming to breed characteristics were brought under the FPR. Achievements made during 2018-19 are as under:

Primary Registration	No. of Animals Finally Registered	Breeders Awareness / Publicity Camps held	No. of Persons trained
1378	1045	49	86

**3.2.4.7 CHR unit, Ongole:**

3.2.4.7.1 This Unit was established in 1979. The unit has 10 recording centers for undertaking milk recording in the field. The indigenous breeds covered are Ongole breed of cattle and Murrah breed of buffalo. The State covered by the unit is Andhra Pradesh.

**3.2.4.7.2 Achievements:**

In 2018-19, 4,219 elite Cows & Buffaloes conforming to breed characteristics were brought under the FPR. Achievements made during 2018-19 (upto Dec, 2018) are as under:

Primary Registration	No. of Animals Finally Registered	Breeders Awareness / Publicity Camps held	No. of Persons trained
2051	1467	56	107

**3.2.4.8 Role Played by CHRS in Genetic Upgradation Programmes:**

3.2.4.8.1 During 2018-19 the primary registration of 13,953 cows and buffaloes was done, out of which 10,157 were finally registered; 276 breeders awareness / publicity camps were held and 522 persons were trained for conducting survey and milk recording for State Implementing Agencies. List of the elite male

calves identified under the scheme have been placed on the website of this Department and also on E Pashu Haat portal. High genetic merit male calves have been purchased by the State for use in breeding programmes being implemented by the States.

**3.2.4.8.2 Revision in MSP:**

Based on the revision of MSP, the lactation yield range is modified for award of prize money incentive as follows:

SN	Breed	First Category	Second Category
1	Gir	3500 & above	3000-3499
2	Kankrej	3000 & above	2500-2999
3	Haryana	2500 & above	2000-2499
4	Murrah	3500 & above	3000-3499
5	Surati	2700 & above	2000-2699
6	Jaffarabadi	3500 & above	3000-3499
7	Sahiwal	3500 & above	3000-3499
8	Tharparkar	3000 & above	2500-2999
9	Rathi	3300 & above	2800-3299
10	Mehsana	3300 & above	2800-3299
11	Ongole	2400 & above	2000-2399
12	Red Sindhi	3500 & above	3000-3499
13	Nili Ravi	3500 & above	3000-3499
14	Pandharpuri	2000 & above	1600-1999



### 3.2.4.9 Vision:

**3.2.4.9.1** At present field performance recording programme under CHRS is not integrated with the breeding programmes being implemented by the States in the breeding tract of indigenous breeds. Therefore there is urgent need to cover elite animals identified under FPR with AI using semen of high yielding indigenous breeds or semen from progeny tested bulls. CHRS units will undertake AI programme in collaboration with State Animal Husbandry Departments or AI infrastructure available with NDDB under progeny testing and pedigree selection programme. AI infrastructure will also be created with CHRS unit.

**3.2.4.9.2** CHRSs will assist NBAGR in collection of blood samples and digitization of data on performance recording for genomic studies and development of genomic chip.



**Gir Bull**

### 3.2.5 Central Frozen Semen Production & Training Institute (CFSP&TI):

**3.2.5.1** CFSP&TI is one of the premier Institutes of the Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture, Government of India established in the year 1969.

**3.2.5.2** The Institute is engaged mainly in production of Bovine Frozen Semen of

Indigenous (Red Sindhi and Tharparkar), Exotic (Holstein Friesian and Jersey), crossbred and Murrah breeds of bulls for the use in Artificial Insemination (AI) programmes in the country. The center is one of the recognized testing laboratories for testing of AI equipment. The main objectives are production of high quality frozen semen from superior exotic, crossbred and Indigenous breeds of cattle and some important breeds of buffaloes, serve as a Central Depot of frozen semen from outstanding imported bulls for the distribution within the country for breeding the nucleus exotic herds, training of technical personnel from State Governments, Universities, Milk Federations and other Institutes in various aspects of frozen semen technology. The Institute is certified for IS/ ISO 9001-2008, for Quality Management System by the Bureau of Indian Standards.

**3.2.5.3** CFSP&TI coordinated for revision of MSP, SOP and Score Card for evaluation of AI Training Centers and initiated actions for evaluation of 49 AI Training Institutes in the year 2018-19.

**3.2.5.4** During 2018-19 around 9.25 lakh doses of frozen semen are produced in the Institute, 8 training courses and 260 internship programmes are held.



**CFSP&TI laboratory**



### 3.2.5.5 Prospective Plan

**3.2.5.5.1** At present state-of-the-art training institutes are not available in the country for training of professionals engaged in frozen semen production, embryo transfer technology and in-vitro fertilization techniques. Training institute at CFSP&TI will be converted into international training centre for professionals working in the field in India and abroad.

**3.2.5.5.2** In order to meet demand of sexed semen in the country, sexed semen production facility will be created at CFSP&TI. Quality sexed semen produced at the centre will be made available to the States for use in their breeding programme.

**3.2.5.5.3** Bulls of indigenous breeds with high genetic potential will be inducted at semen station for further promotion of indigenous breeds.

#### **Rashtriya Kamdhenu Aayog**

The Government of India has constituted the “Rashtriya Kamdhenu Aayog” to organize animal husbandry on modern and scientific lines and to take steps for preserving and improving breeds, and prohibiting the slaughter of cows, calves, other milch and draught cattle.

The Aayog is a high powered permanent apex advisory body with the mandate to help the Central Government to develop appropriate programmes for conservation, sustainable development and genetic upgradation of Indigenous breeds of cows. The Aayog will review existing laws, policies as well as suggest measures for optimum economic utilization of cow wealth for enhanced production and productivity, leading to higher farm income and better quality of life for the dairy farmers. It also aims at transmission and application of improved technology and management practices at the farmers' doorstep through coordination with dairy cooperatives, farmer producer companies, dairy industry as well as research institutions.

The first meeting of Rashtriya Kamdhenu Aayog was held on 01.03.2019 in Krishi Bhawan, New

Delhi under the chairmanship of Dr. Vallabh Bhai Kathiria. The Aayog had been deliberated on the status of Rashtriya Gokul Mission, its implementation and achievements made under it. The members discussed about the objective, functioning and future plans to implement Rashtriya Kamdhenu Aayog in order to better conserve, protect and develop cows and its progeny in the country.

For functioning of the Aayog, a new office has been established at DMS Complex, Shadipur, New Delhi.

### **3.3 NATIONAL LIVESTOCK MISSION**

**3.3.1** For sustainable and continuous growth of livestock sector by emulating the success achieved in Dairy and Poultry sectors, across species and regions, the National Livestock Mission was launched in 2014-15 with an approved outlay of ₹ 2,800 crore during XII Plan. This Mission is formulated with the objectives of sustainable development of livestock sector, focusing on improving availability of quality feed and fodder, risk coverage, effective extension, improved flow of credit and organisation of livestock farmers / rearers, etc. with the following four Sub-Missions:

- I. Sub-Mission on Livestock Development,
- II. Sub-Mission on Pig Development in North-Eastern Region,
- III. Sub-Mission on Fodder and Feed Development,
- IV. Sub-Mission on Skill Development, Technology Transfer and Extension.

**3.3.2** It broadly covers all the activities required to ensure quantitative and qualitative improvement in livestock production systems and capacity building of all stakeholders. The major outcomes of the Mission envisaged are mainstreaming of livestock rearing as business models and linkages for successful business ventures to achieve 5-6% annual growth rate, optimal utilization of scarce nutritional resources – reducing the gap in demand and availability of fodder, conservation and improvement of indigenous breeds, higher productivity and production in a sustainable and environment friendly manner, enhanced livelihood opportunities, especially in rainfed areas and for landless, small and marginal farmers,

increased awareness, improved risk coverage and better availability of quality animal products to consumers overall socio-economic upliftment of livestock rearers.

Following are the main activities under the above four sub Mission of NLM

### **3.3.3 Sub-Mission on Livestock Development:**

#### **3.3.3.1 Risk Management and Insurance**

**3.3.3.1.1** The objective of the Risk Management & Insurance as component of sub-mission on livestock development of NLM is to management of risk and uncertainties by providing protection mechanism to the farmers against any eventual loss of their animals due to death and to demonstrate the benefit of the insurance of livestock to the people.

**3.3.3.1.2** The 'Risk Management & Insurance' as component of sub-mission on livestock development of NLM is being implemented in all the districts of the country from 21.05.2014 and in case if new districts are carved out of the existing districts, then the new districts will also be covered. The indigenous / crossbred milch animals, pack animals (Horses, Donkey, Mules, Camels, Ponies and Cattle/ Buffalo. Male) and other livestock (Goat, Sheep, Pigs, Rabbit, Yak and Mithun) will be under the purview of the 'Risk Management & Insurance'. Benefit of subsidy is to be restricted to 5 animals per beneficiary per household for all animals except sheep, goat, pig and rabbit. In case of sheep, goat, pig and rabbit the benefit of subsidy is to be restricted based on 'Cattle Unit' and one cattle unit is equal to 10 animals i.e. for sheep, goat, pig and rabbit. Therefore, the benefit of subsidy to sheep, goat, pig and rabbit is to be restricted to 5 'Cattle Unit' per beneficiary per household. If a beneficiary has less than 5 animals / 1 Cattle Unit can also avail the benefit of subsidy.

**3.3.3.1.3** The funds under the scheme are being utilized for payment of premium subsidy, honorarium to the Veterinary practitioners and publicity. An amount of Rs. 8.68 crore has been released to States/UTs and 5.30 lakh animals have been insured during 2018-19 up to March, 2019.

### **3.3.4 Poultry**

**3.3.4.1** Poultry Development in India has been a

household activity. Through policy interventions by Government and enterprise of private players, poultry farming has transformed into a very scientific operation. Poultry continues to be one of the fastest growing subsectors of Animal Husbandry. The Government of India is implementing the National Livestock Mission (NLM) and following components related to Poultry are covered under NLM:

#### **3.3.4.2 Modernization and Development of Breeding Infrastructure**

##### **3.3.4.2.1 Central Farms: Central Poultry Development Organizations**

**3.3.4.2.1.1** Central Poultry Development Organisations (CPDOs) located at four regions viz. Chandigarh, Bhubaneswar, Mumbai and Bengaluru have been playing a pivotal role in the implementation of the policies of the Government with respect to poultry. The mandate of these organizations is to focus on improved variety of birds for backyard poultry which can survive at the farmer's doorstep, provide basic training to backyard poultry farmers and conduct feed analysis.

**3.3.4.2.1.2** Kalinga Brown, Kaveri, Chhabro and Chann are the varieties / strain of Low Input Technology birds (Chicken) developed by these CPDOs. Based on demand they supply hatching eggs, Day old chick of parent / commercials of these varieties to the States / UTs and individual farmers. Besides they also maintain indigenous varieties like Kadaknath, Aseel etc. to promote breed conservation.

**3.3.4.2.1.3** CPDOs are also promoting diversification with species other than poultry like ducks, Japanese quail, Turkey and Guinea fowl. White Pekin (meat type) and Khaki Campbell (egg type) are the duck varieties maintained by CPDO, Bengaluru for supply to the various States based on demand. CPDOs are also doing feed analysis for all animal feed. Three CPDOs at Bhubaneshwar, Mumbai and Hessarghatta have Near Infra-Red (NIR) Spectrophotometer to analyze feed samples. Automation System for feeding and watering

the birds has been installed at Hessarghatta, Chandigarh and Bhubaneswar.

**3.3.4.2.1.4** In these CPDOs, training is imparted to the farmers and a training module for training of Poultry farmers/ Entrepreneurs has been devised and followed at these CPDOs. The poultry production course curriculum includes practical sessions and demonstration of poultry farming activities including brooding arrangements, feeding, watering, vaccination, medication etc. and other management aspects apart from tips on feed mill management and hatchery management. Training is also given for basic economics in poultry farming with special reference to obtaining financial assistance (bank loan) through funds from nationalized banks. The farmers are also briefed about viable projects of commercial poultry farming with various models in different regions.

**3.3.4.2.1.5** CPDO & Training Institute (CPDO&TI), Hessarghatta is also imparting Trainers' training to in-service personnel from within the country as well as overseas. Regular poultry management courses and tailor-made specialized, advanced and laboratory courses are available at this institute. CPDO&TI has opened a Skill Development and Training Centre exclusively for training purpose.

**3.3.4.2.1.6** This organization (CPDO & TI) is accredited with ISO 9001:2008 by Bureau of Indian Standards since 2005. The four CPDOs have been affiliated as Training centers under National Skill Development Framework.

**3.3.4.2.1.7** The Central Poultry Performance Testing Center (CPPTC), located at Gurgaon is entrusted with responsibility of testing the performance of layer and broiler varieties. This Centre gives valuable information relating to different genetic stock available in the country. One layer and two broiler tests are usually initiated in a year.

**3.3.4.2.1.8** During the year 2018-19, so far till November 2018, around 0.84 lakh & 11.64 lakh no. of parent chicks and commercial chicks respectively have been supplied by the CPDOs to the different States/Agencies/Individuals. Similarly, in 2018-19, 0.23 lakh & 12.25 lakh no. of

parent hatching eggs and commercial hatching eggs respectively have been supplied by the CPDOs. Around 2173 no. of farmers and trainers have been trained and about 3803 no. of feed samples have been analyzed.

#### **3.3.4.2.2 Strengthening of Breeding infrastructure of State/University farms**

The Government of India is strategically bringing in technological interventions in the areas of bio-security, automation and modernization of infrastructure in various Central / State Government poultry farms through the National Livestock Mission. This component of the NLM aims at strengthening existing State poultry farms so as to enable the flow of suitable germplasm from the Research Institutions / Laboratories to the grassroots level alongwith other technical services like capacity building, developing and implementing package of practices at the ground level for different types of poultry system including family poultry system for supplementary income generation and family nutrition.

#### **3.3.4.2.3 Interventions towards Productivity enhancement**

**3.3.4.2.3.1 Rural Backyard Poultry Development:** This component is envisaged to cover beneficiaries from BPL families to enable them to gain supplementary income and nutritional support. The SHGs/ NGOs, entrepreneurs may take up mother unit activity which will procure the day-old chicks either from the State Poultry Farms or from the private hatchery and will rear the birds upto 4 weeks of age. This scheme component aims at supporting BPL beneficiary families wherein 4-week old chicks, suitable for rearing in the backyard, reared at the 'mother units' are further distributed to them in batches. Further, provision is there to raise the birds in a bio-secure manner for night-shelter etc.

#### **3.3.4.2.3.2 Transform Backyard Poultry to commercial economic model**

**3.3.4.2.3.2.1** To encourage poultry entrepreneurship in rural areas especially amongst educated and unemployed youth the



model is introduced under Innovative Project of 'Productivity Enhancement' component of Sub-Mission on Livestock Development under National Livestock Mission (NLM) on pilot basis through Broiler Rearing and up scaled low-input technology (LIT) bird rearing. In 2017-18, the subsistence model of backyard poultry farming to a scaled-up entrepreneur model, upscaling incrementally upto 400-1000 birds, is launched. In case of Low-input technology (LIT) birds namely Innovative Poultry Productivity Project- low-Input Technology birds (IPPP-LIT) under National Livestock Mission, these would help in transition and upscaling later to 1,000-2,000 birds for larger commercial scale Poultry farming. Similarly, it is also envisaged to introduce smaller scale broilers in rural households for later scaling up to commercial scale and have Poultry as a mainstream source of income namely Innovative Poultry Productivity Project for Broilers - IPPP (Broiler). Under IPPP-Broiler, 600 broiler chicks in 4 batches i.e. 150 chicks to each beneficiaries in every 2-3 months in a year and under IPPP-LIT, 4-week old 400 low-input technology (LIT) birds (dual purpose: egg and meat: 50:50 ratio of hens and cock) in 2 batches with a gap of one and a half years will be provided to each of beneficiaries.

**3.3.4.2.3.2.2** During 2018-19, up to December 2018, funds of around Rs. 17.58 crore has been released for RBPD component to assist 75000 beneficiaries along with funds of around Rs

39.96 lakh has been released to support 111 mother units to the different States under NLM scheme. Similarly, funds of around Rs. 6.55 crore has been released for IPPP component to assist 2440 beneficiaries.

### **3.3 4.2.4 Small Ruminants**

Sheep and Goat, collectively known as small ruminants is a multi-functional animal and plays a significant role in the economy and nutrition of landless, small and marginal farmers in the country. They contribute greatly to the agrarian economy, especially in areas where crop and dairy farming are not economical, and play an important role in the livelihood of a large proportion of landless as well as small and marginal farmers.

Nationally, total livestock population is 512.05 million, of which goat and sheep population stands at 200 million (39% of the country's total livestock population). Sheep/Goat rearing is an enterprise which has been practiced by a large section of population in rural areas. These are among the most indispensable of assets owned by resource-poor families.

Goat population in India is 135.17 million; the country stands second in the world in goat population. Sheep population in the country is 65.06 million, constitute 5.6% of the world population. The country stands third in the world in sheep population.

#### **Population statistics of Sheep & Goats from the 19<sup>th</sup> Livestock Census 2012**

<b>Small Ruminant</b>	<b>Population as per 2012 census</b>	<b>No of farmers holders</b>
Sheep	65 million	4.55 million
Goat	135 million	33.01 million

Keeping in mind the various challenges, Government of India has emphasized the technological advancement and growth of these sectors through the National Livestock Mission.

The components under National Livestock Mission to develop the Small Ruminant are as follows:



Beetal Doe

### 3.3.4.2.5 Central Farm Central Sheep Breeding Farm Hisar (Haryana)

**3.3.4.2.5.1** The farm was established in 1969-70 in collaboration with the Government of Australia under Colombo Plan during the Fourth Five Year Plan with the objectives of producing acclimatized exotic rams for distribution to various State Sheep farms and training of personnel in Sheep Management and Mechanical Sheep Shearing. Presently the farm is keeping Nali X Rambouillet and Sonadi X Corriedale crosses, as well as purebred Beetal goats.

**3.3.4.2.5.2** During 2018-19, the farm supplied 1009 rams and 127 bucks to different State agencies and farmers. In addition, a total of 100 farmers were trained in sheep management and production, while another 120 farmers were trained in machine shearing techniques and 1598 nos of farmers & 34 scientists from LUVAS, Hisar have been trained under one day training programme till 31<sup>st</sup> March, 2019.



### 3.3.4.2.6 Strengthening of breeding infrastructure of State/University farms

During 2018-19, one Goat farm each in State of Punjab and Union territory of Lakshadweep, two Sheep farms in Jammu & Kashmir were assisted to strengthen and modernize their set-up and infrastructure and funds to the tune of Rs. 60.00 lakh, Rs. 76.706 lakh and Rs. 54.75 lakh have been released to the States respectively.

### 3.3.4.2.7 Interventions towards productivity enhancement

**3.2.4.2.7.1** Under the Sub-component - Propagation of Artificial Insemination (A.I.), during 2018-19, an amount of Rs. 58.20 lakh was released to the State of Kerala for strengthening of infrastructure of one Goat Breeding centre and strengthening goat Artificial Insemination (AI) network in 500 AI centres and Rs.7.268 lakh was released as last instalment of the project 'Propagation of Artificial Insemination in Goats in Himachal Pradesh'.

**3.3.4.2.7.2** During 2018-19, under Sub-component - Cluster based mass de-worming/health cover programmes, Rs. 67.50 lakh was released to the State of Jammu & Kashmir and Rs.6.00 lakh was released to the State of Himachal Pradesh to cover 3500 animals and 6 lakh animals respectively.

**3.3.4.2.7.3** During 2018-19, this Department and the State Government of three Himalayan States namely Jammu & Kashmir, Himachal Pradesh and Uttarakhand have collectively initiated efforts for importation of superior quality Merino and Rambouillet sheep for genetic upgradation of non-descript sheep population of these three States. Funds to the tune of Rs. 1195.20 lakh, Rs. 761.72 lakh and Rs. 765.00 lakh have been released to the States of Jammu & Kashmir, Himachal Pradesh and Uttarakhand respectively for importation of superior quality exotic sheep breeds and strengthening of two



farms in each State for housing of exotic animals.

#### 3.3.4.2.7.4 Innovative project on Genetic Development of Sheep and Goat

In 2017-18, the Department of Animal Husbandry, Dairying and Fisheries introduced an “**Innovative project on Genetic Improvement of Sheep and Goat (GISG)**” on pilot basis for up-gradation of indigenous sheep and goat. It is envisaged that with the implementation of the *Innovative project of Goat and Sheep* there will be the triple advantages of higher population of high genetic merit coupled with increased farmers income per animal and at the same time addressing the meat, milk and wool demand of the country. In 2017-18, Gujarat, Rajasthan and Uttar Pradesh were assisted for Genetic Improvement in Goats and funds to the tune of Rs. 1800.27 lakh, Rs. 1217.4 lakh and Rs. 564.294 lakh were released to the States respectively. Similarly in 2017-18, Tamil Nadu, Telangana, Rajasthan, Karnataka and Himachal Pradesh were assisted for genetic improvement of Sheep and funds to the tune of Rs. 315.246 lakh, Rs. 586.18 lakh, Rs. 87.5 lakh, Rs. 75.12 lakh and Rs. 161.524 lakh for sheep were released to the States respectively. In 2018-19 the State of Punjab has been assisted for Genetic Improvement of Beetal Goat and fund to the tune of Rs. 19.83 lakh has been released to the State.

#### 3.3.4.2.8 Rural Backyard Development Programme for Sheep, Goat and Pigs

In 2018-19 the Department of Animal Husbandry, Dairying & Fisheries has introduced a scheme named Rural Backyard Development Programme for Sheep, Goat and Pigs to assist and encourage poor/marginal farmers for doing animal husbandry with improve breeds of animals, to enhance productivity of Sheep, Goat and Pigs, to increase farmer's income, to ensure better nutrition and also to utilize agriculture food waste. This

project involves distribution of Sheep/Goat Unit involving 10 (ten) nos. of high yielding young female of age group 4-5 months and 1 (one) no. of high yielding young male of age group 5-6 months to farmers.

In 2018-19, so far 2760 farmers have been benefitted in Rural Backyard Goat Development Schemes in the State of Himachal Pradesh, Odisha, Kerala, Mizoram, Manipur and Meghalaya and funds to the tune of Rs. 1256.04 lakh has been released to these States.

In addition to this 150 farmers have been assisted in Rural Backyard Sheep Development Scheme and for this purpose Rs. 59.40 lakh has been released to the State of Odisha.

Furthermore 2774 farmers have been supported in Rural Backyard Pig Development Scheme in the State of Kerala, Odisha, Manipur, Meghalaya, Mizoram, and Nagaland and funds to the tune of Rs. 487.242 lakh has been released to these States for this purpose.

#### 3.3.4.2.9 Conservation of Threatened Breed

During 2018-19, the State Government of Gujrat, Sikkim and Kerala have been assisted for conservation of the threatened breed of Kachi Sindhi Horse, Banpala Sheep and Attapadygoat respectively and funds to the tune of Rs. 7.62 lakh, Rs. 8.10 lakh and Rs. 38.10 lakh has been released to concerned States.



**Crossbreed Ram**

### 3.3.6 Pig Development in North-Eastern Region

**3.2.6.1** Keeping in view the vision of doubling farmer's income, "Innovative Pig Development Project for North East (IPDPNE)" has been formulated under the National Livestock Mission, which will increase the income of the Pig rearing farmer / entrepreneur/ NGO / Cooperative Society, etc in the North Eastern States including Sikkim as pig husbandry is acceptable in these States and has no social taboo associated with it. This is envisaged to be done by incorporation of superior germplasm of high genetic merit through import and then crossing them with the low productive indigenous breeds to eventually result in cross breeds which would perform and yield better harvest to the pig rearers.

**3.3.6.2** During the year 2018-19 till December, 2018, an amount of Rs. 247.186 lakh has been released to the State of Meghalaya, Mizoram, Nagaland, Sikkim for import of Pig germplasm under the "Innovative Pig Development Project for North East (IPDPNE)".

**3.3.6.3** During the year 2018-19 till December, 2018, an amount of Rs. 278.40 lakh has been released to the States of Mizoram, Nagaland and Sikkim for Strengthening of six Pig breeding farms, 3,45,000 Health cover for Pigs and import of 24 Pig germplasm under the Sub Mission on Pig Development in NER.



**Crossbred Pig Rani with litter  
(Hampshire x Hampshire)**

**3.3.6.4** To ensure hygiene in meat production, an amount of Rs 278.40 Lakh has been released for modernisation and development of breeding infrastructure/strengthening of Pig farm and Rs 150.00 Lakh for establishment of Rural Pig slaughter house to the State Government of Punjab during the current year, i.e. 2018-19.

### 3.3.7 Entrepreneurship Development and Employment Generation (EDEG)

**3.3.7.1** Under the Sub-mission of Livestock Development of NLM, the Component-Entrepreneurship Development and Employment Generation (EDEG), an amount of Rs. 17500.00 lakh has been released to NABARD to channelize the funds for establishment of poultry, piggery, sheep/ goat rearing & breeding units and salvaging of male buffalo calves in various States to encourage entrepreneurship development.

**3.3.7.2** Till March, 2019, a total number of 12054 beneficiaries have been assisted for establishment of poultry (1412), sheep/ goat (9919), piggery (683) and salvaging of male buffalo calves (40) units for Entrepreneurship Development and Employment Generation among women, poor and marginal farmers.

**3.3.7.3** As per the requirement under DBT, NABARD was requested to develop online portal for smooth functioning off EDEG, so that the information related to beneficiary, application processing can be made available readily.

**3.3.7.4** A portal named "ENSURE" was launched by Hon'ble Minister of Agriculture and Farmers Welfare, Shri Radha Mohan Singh on 11<sup>th</sup> December, 2018. With the launch of the ENSURE, a subsidy-based Scheme EDEG of NLM the existing process of subsidy delivery



**3.3.7.5** NABARD has developed a portal called “Ensure” which will be available at <https://ensure.nabard.org>

### **3.3.8 Fodder and Feed Development:**

**3.3.8.1** To overcome the shortage of feed and fodder and to improve the nutrition of livestock, the Department is implementing the National Livestock Mission with Feed and Fodder component. It is to mention that India with only 2.29% of the land area of the world, is maintaining about 10.71% of the livestock population of the world.

**3.3.8.2** The nutritive value of feed and fodder has a significant bearing on productivity of livestock. The major reasons for shortage of feed and fodder are, increasing pressure on land for growing food grains, oil seeds and pulses, adequate attention has not been given to the production of fodder crops. Further, on account of diversified use of agricultural residues, the grazing lands are gradually diminishing. The area under fodder cultivation is also limited. Majority of the grazing lands have either been degraded or encroached upon restricting their availability for livestock grazing. The area under fodder cultivation is only about 4-5% of the cropping area, and it has remained static for long period of time. Owing to the importance of food crops and other cash crops it is very unlikely that the area under fodder cultivation would increase substantially.

**3.3.8.3** Though the availability of feed and fodder has improved in the last decade, still a lot is required to be done to bridge the gap between the demand and availability of fodder in the country, particularly during the lean periods and crisis situations.

**3.3.8.4.** The component wise Physical achievement during the year 2018-19 (upto 31<sup>st</sup> March, 2019) is placed at **Table 3.3**. An amount of Rs. 18.60 crore has been released for the year 2018-19 under the Feed & Fodder

**3.3.8.5** Further, under the National Livestock Mission there are Eight Regional Fodder Stations which are located in different agro-climatic zones of the country with the following objectives.

- a. Introduction of fodder crops in existing crops rotation.
- b. Demonstration of superior package of practices for use of fertilizers, water and soil management in production of cultivated fodder crops, studies of these practices with regards to new and promising species of fodder crops and grasses.
- c. Evolution of fodder calendars suitable to the region.
- d. Demonstration for improvement and management of village grazing land and natural grass land and study their proper utilization in combination with forage crops.
- e. Demonstration of different methods of fodder conservation and utilization.
- f. Production of high quality foundation seeds of forage crops for further multiplication and distribution.
- g. Conducting training programmes to educate State Government officials and dairy farmers.
- h. Organizing farmers' fair/field days.

**Table 3.3 Component wise Physical achievement under National Livestock Mission - Submission on Feed and Fodder Development during the year 2018 -19.**

S. No	Name Components	Beneficiaries	Physical Achievement upto 31-03-2019
1	Forage production from Non-forest wasteland /rangeland/ grassland /non-arable land (ha)	State Department of Animal Husbandry / Agriculture / Forest, Milk Cooperatives / Federations, Gaushalas. However, funds will be released through State Governments.	112
2	Forage production from Forest Land (ha)	Forest Department of the States / UTs	360
3	Fodder seed production/ procurement and distribution (qtls)	Department of Animal Husbandry/ Agriculture of the States. States may involve NGOs, SHGs, Corporations, Milk Cooperatives/ Federation / Central and State Agriculture or Veterinary Colleges / Universities for supply of seeds.	23210
4 (i)	Distribution of hand driven chaff cutters (No.)	Farmers and Members of Milk Cooperatives	675
(ii)	Distribution of power driven chaff cutters (No.)	Farmers and Members of Milk Cooperatives	1895
(iii)	Establishment of high capacity Fodder Block Making units (No.)	Animal Husbandry Department, Milk Federations, University, Research Institutes, Private Entrepreneurs and NGOs	0
(iv)	Distribution of low capacity, tractor mountable Fodder Block Making units/ Hey Bailing Machine/ Reaper/Forage Harvester (No.)	Village Panchayats / Primary Milk Cooperatives / Joint Forest Management Committees through the concerned State Department. Funds will be released through State Governments concerned.	0
(v)	Establishment of Silage making units (No.)	Farmers (including Members of Milk Federation)	0
(vi)	Establishment of Bypass protein/ fat making units (No.)	Animal Husbandry Department, Milk Federations, University, Research Institutes, Private Entrepreneurs and NGOs	0
(vii)	Establishment of area specific mineral mixture / feed processing units (No.)	Govt. bodies / Universities / Corporations / Boards, including Milk Federations	--
(viii)	Establishment / modernization of Feed testing laboratories (No.)	Veterinary colleges, Agriculture Universities, Milk Federations, Animal Husbandry Department. However, funds will be released through State Govts concerned.	1
(ix)	Cattle Feed Unit (Nos.)	State Animal Husbandry Department/ Private Entrepreneur	1

**3.3.8.6** The Eight Regional Fodder Stations are at Hessarghatta, Bengaluru (Karnataka), Mamidipally, Hyderabad (Andhra Pradesh), Dhamrod, Surat (Gujarat), Hisar (Haryana), Suratgarh (Rajasthan), Suhama (Jammu & Kashmir), Alamadhi, Chennai (Tamil Nadu) and Kalyani (West Bengal).

**3.3.8.7** These stations have produced 304 tonnes of fodder seeds, conducted 9516 demonstrations, and organized 200 training programmes and 200 farmers' fairs/field days, during this financial year till March, 2019.

### **3.3.9 Sub-Mission on Skill Development, Technology Transfer and Extension:**

**3.3.9.1** Under National Livestock Mission (NLM), a Sub Mission on Skill Development, Technology Transfer & Extension has been launched with the objective to adoption of new technologies and practices require linkages between stakeholders. The sub-mission will provide a platform to develop, adopt or adapt the technologies including frontline field demonstrations in collaboration with farmers, researchers and extension workers, etc. wherever it is not possible to achieve this through existing arrangements.

**3.3.9.2** The Components of the Sub Mission are IEC Support for Livestock Extension, Training and capacity Building, Livestock Farmers Groups/Breeder's Association, Organization of Livestock Mela / Show, Regional Livestock fair, Operationalization of Farmers Field Schools, Exposure Visit for livestock Extension facilitators, Exposure Visit of farmers and Staff component of livestock Extension.

**3.3.9.3** An amount of Rs. 308.14 lakh has been released for the year 2018-19 up to March, 2019 under the Sub-mission of Skill Development, Technology Transfer and Extension.

### **3.3.10 National Action Plan-National Livestock Mission**

**3.3.10.1** The proposed objectives under National Livestock Mission (NLM) are Sustainable growth



**Management Training**

of livestock and poultry for nutritional security and economic prosperity.

**3.3.10.2 Brief of the actions to be taken subject to availability of budget are as follows:**



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**3.3.10.2.1 Double the productivity of goat and sheep for milk, meat and wool by selective breeding:**

**3.3.10.2.1.2** Sheep and Goats are important species of livestock for India. They contribute greatly to the agrarian economy, especially in areas where crop and dairy farming are not economical, and play an important role in the livelihood of a large proportion of landless as well as small and marginal farmers.

**3.3.10.2.1.2** In the 2012 Livestock Census, the population of Sheep is 65 million and Goat is 135 million; there is a decrease in population of Sheep by 9% and Goat by nearly 4% from the 2007 Livestock Census. This has been attributed to more culling/death than the male goats/sheep



produced due to increasing demand of meat in the country as compared to the available progeny from the natural reproduction rate. The long term consequence of this would be shortage of goat and sheep meat which in turn has impact on the nutritional requirement fulfillment of the country's population.

**3.3.10.2.1.3** Thus, to increase the meat, milk and wool production, breed improvement even while increasing the farmers income in case of indigenous breeds and upgrading through imported germplasm in case of non-descript small ruminants through breed Improvement of the goat and sheep with focus on separate identified breeds for meat, milk and wool production, importing germplasm of suitable genetic traits for higher meat, milk and wool production.

### **3.3.10.3 Transform Backyard Poultry to commercial economic model**



**Shearing Training**

**3.3.10.3.1** Already Private Industry and NABARD encourage economically viable/ bankable projects, wherein the scale is much higher and so, beyond the reach of small and marginal/ BPL farmers. The goal is to bring these landless, small and marginal farmers into mainstream of economic activity.

**3.3.10.3.2** Presently, we have a component under National Livestock Mission (NLM), namely, Rural Backyard Poultry Development (RBPDP) which

covers beneficiaries from BPL families to enable them to gain supplementary income and nutritional support. Under RBPDP, the chicks/ birds suitable for rearing in the backyard are reared in the mother units upto 4 weeks and are further distributed to the BPL beneficiaries in at least two batches.

**3.3.10.3.3** It is proposed to move incrementally from this subsistence model of backyard poultry farming to a scaled-up entrepreneur model, up scaling incrementally upto 200-400 birds. In case of Low-input technology (LIT) birds, these would help in transition and up scaling later to 1,000-2,000 birds for larger commercial scale Poultry farming. Similarly, it is also envisaged to introduce smaller scale broilers in rural households for later scaling up to commercial scale and have Poultry as a mainstream source of income.

### **3.3.10.4 Fodder Development in the country**

**3.3.10.4.1** Department of Animal Husbandry, Dairying and Fisheries (DADF), Government of India has taken necessary steps to increase fodder production in various parts of the country by providing financial assistance to the States / UTs under Centrally Sponsored National Livestock Mission with a Sub Mission on Feed and Fodder Development.

**3.3.10.4.2** The focus is to improve Gauchar lands in the country for increasing the availability of Fodder and Grasses. The Common Property Resources (Gauchar) at present are either degraded or encroached, thereby not serving the desired purpose. A drive has been launched by sensitizing the State Governments to develop these Gauchar lands.

**3.3.10.4.3** Attention is also being paid to conserve surplus crop residue to meet the shortage of fodder during the lean seasons, draught, flood etc.

### **3.3.10.5 Animal Insurance:**

**3.3.10.5.1** Attention is also being paid, to insure the animals of poor farmers, as per availability of budget.

### 3.4 Livestock Health

**3.4.1** With improvement in the quality of livestock through cross-breeding programmes, the susceptibility of these livestock to various diseases including exotic diseases has increased. In order to reduce morbidity and mortality, efforts are being made by the State/Union Territory Governments to provide better health care through Polyclinics/Veterinary Hospitals, Dispensaries and First-Aid Centers including Mobile Veterinary Dispensaries available with them. The State-wise list of veterinary Institutions is given at **Annexure-IX**. In order to provide referral services, over and above the existing disease diagnostic laboratories in the States, one Central and five Regional Disease Diagnostic Laboratories have been established which are now fully functional. Further, for control of major livestock and poultry diseases by way of prophylactic vaccination, the required quantity of vaccines are being produced in the country at 27 veterinary vaccine production units including 20 in public sector.

**3.4.2** While efforts are made to ensure better livestock health in the country, the same are also being made to prevent ingress of diseases from outside the country, and to maintain standards of veterinary drugs and formulations. At present, the Drugs Controller General of India regulates the quality of veterinary drugs and biologicals in consultation with this Department. The following schemes are being implemented in respect of Livestock Health for prevention, control and containment of animal diseases.

### 3.5 Directorate of Animal Health

#### 3.5.1 Animal Quarantine and Certification Service

**3.5.1.1** The purpose and scope of setting up of quarantine Stations is to prevent the ingress of dangerous exotic diseases into the country

through imported livestock and livestock products. The increased and faster international trade and travel exposed every country to the danger of infiltration of known and unknown transmissible diseases which have the potential of very serious and rapid spread, adverse socio-economic and human/animal health consequences. The Quarantine Services are necessary to keep the country free from many exotic diseases and AQCS plays an important part to maintain the country disease freedom.

There are many infectious diseases of livestock which are prevalent in other countries but luckily not present in India. It is therefore necessary that such exotic diseases do not gain entry into our country through movement of livestock and livestock product from across the borders. The entire procedure of keeping a watch on livestock disease is the responsibility of the World Organisation for Animal Health (O.I.E.) through its International Zoo Sanitary Code. For this purpose this organization has mentioned a list of the prevalent disease (aquatic and terrestrial). Zoonosis is also the important component of AQCS wherein the human health is ensured by strict implementation of AQCS regulations.

The speedy travel by air has reduced the travel time which used to be an effective barrier when the transport was done by sea. Even sea travel has become quicker now-a-days and so gone all the days when the travel used to be for many days which generally exceeded the incubation period of many acute diseases thus exposing the presence of an infection in the livestock during such travel. Hence, an efficient Animal Quarantine Organization is necessary for conducting checks at the International Airports/Seaports and land routes. Because livestock may covertly carry pathogens without showing overt signs of clinical disease, they must be held in quarantine for observation and testing to establish their pathogen free status before release. Similarly, livestock products are also need to be checked technically before entering into the



country. Moreover, in present circumstances AQCS can play major role in preventing illegal trade by using transplant and surgical procedures in animals. Bio terrorism is an area where AQCS can be of great help and support for other security agencies.

Keeping this in view, Government of India initiated a central sector scheme namely "Animal Quarantine & Certification Services" (AQCS) during the Fourth Five Year Plan (1969-70) under which four Animal Quarantine stations were set up at Delhi, Chennai, Kolkata & Mumbai and now also in Hyderabad and Bangalore.

This programme also envisage provision of an Internationally acceptable certification service for the livestock & livestock products exported to other countries from India confirming to the health requirements of the importing country or the health regulations prescribed in the International Zoo Sanitary code.

All information related to AQCS is available at official website: [www.aqcsindia.gov.in](http://www.aqcsindia.gov.in). Details of the activities of the Animal Quarantine and Certification Service Stations can be accessed at the link <http://aqcsindia.gov.in/import-export-annual-report.html>.

### 3.5.2 Chaudhary Charan Singh National Institute of Animal Health, Baghpat

3.5.2.1 Chaudhary Charan Singh National Institute of Animal Health was established at Baghpat, Uttar Pradesh to undertake the quality control and assurance of standard, efficient and safe veterinary biologicals in India and to act as a nodal institute to recommend licensing of veterinary vaccines in the country with a vision to promote healthy and productive livestock in Indian subcontinent using standard, efficient and safe veterinary biologicals. During the period under report, following activities are being carried out:

To initiate its regulatory function, the institute has developed its systems for

undertaking quality control testing of veterinary biological. It was inspected by the Joint Inspection Team of Drug Controller General of India, CDSCO, Ministry of Health and Family Welfare, Govt of India and the draft Gazette notification dated 17 July 2018 for recognizing CCSNIAH as Central Drugs Laboratory (CDL) for undertaking the Quality Control Testing of Veterinary Biologicals, on two diseases (namely HS and RD) has been published. It was followed by approval from Drug Technical Advisory Board (DTAB), Ministry of Health and Family Welfare, Govt of India in its meeting dated 29<sup>th</sup> November 2018, which was mandatory for notifying the laboratory as CDL. Final notification will be published soon.

- QC testing has been continued for four diseases (HS, BQ, RD and PPR) and completed the same with success on 20 batches of vaccines procured by the institute from various State BP units (BP units, Mhow, Odisha, Haryana, and Bengaluru besides few private manufacturers), based on the revised SOPs, for internal standardization.

- Exhaustive revised SOPs for quality testing of vaccines have been reviewed, to include changes as per IP 2018 monographs, including protocols for biosafety and biosecurity.

- The institute is maintaining 10 reference cultures of bacteria and viruses (of the 20 total available); the old non-viable and contaminated cultures have been discarded and the system of the culture maintenance has been streamlined.

- Besides, few cell-lines (including Vero cells) are being maintained in the institute.

- Fresh culture (RD virus) has been procured from IVRI Izatnagar for use in the lab to strengthen our laboratory.

- Institute facilitated the testing of safety and immunogenicity of mutant strain in cattle and buffalo at Animal House Facility of CCSNIAH Baghpat for DBT-Network programme entitled "Development of a genetically engineered

live vaccine against brucellosis for animals".

- The IBSC (05.03.2018) and IAEC (10.04.2018 and 26.12.2018) meetings were conducted for statutory clearances of biological work in the institute.

- To undertake research to refine QC testing methods, MoUs with the universities have been initiated. MoUs with NDRI Karnal and CCS University Meerut have been signed. MoUs with other universities like GADVASU Ludhiana, IVRI Izatnagar, LUVAS and CCSHAU Hisar, SVBPUAT Meerut and GBPUAT Pantnagar are being pursued with concerned authorities. One student has completed his project work at CCSNIAH for award of M.Sc. from CCS University Meerut.

- Following initial certification in 2016, the institute has cleared the 2nd Annual Surveillance for ISO 9001:2015 certificate in 2018. Towards preparedness for ISO 17025, besides training of the officers, the institute is inviting tender for hiring a consultant. The activities in the form of development of documentation have been initiated to achieve this goal.

- The Institute, alone and in coordination with KVKs and NGOs, has participated in various extension activities comprising the agricultural fairs like Agriculture Fair Baghpat, Krishi Unnati Mela at Pt Deen Dayal Upadhyay Dham, Mathura, **National Level Agriculture Krishi Unnati Mela at IARI** Pusa (New Delhi), etc. and livestock health and awareness camps locally.

- One day farmer camp with the theme 'पशुपालन एवं एकीकृत कृषि' organized successfully at CCSNIAH, Baghpat on 17.01.18. Hon'ble MoS, (HRD), graced the function as Chief Guest. About 700 participants including farmers, livestock owners, officers from Animal Husbandry Department, GOI, State Government, Scientists from ICAR, Private organizations and Dairy Owners participated in the Camp.

- Institute also organized a One Day Pashu Aarogya Melain Distt Muzaffarnagar, UP on 23.09.2018.



One day farmer camp with the theme  
'पशुपालन एवं एकीकृत कृषि'

- As per invitation of the Department, the OIE proposed to undertake the PVS Evaluation of India during 2017-18/2018-19. For preparing the country for this national mission, various activities were planned by the Department and CCSNIAH was given the responsibility to coordinate all these activities. Accordingly the Information seminar and workshops for all stakeholders were successfully conducted. The PVS mission activities for the first phase visits to Southern States (w.e.f. 19 Feb to 9 Mar 2018) and second phase visits to rest of the States (w.e.f. 11 April to 2 May 2018) were successfully coordinated with the help of Departmental officers. One officer of the institute accompanied the mission for its visit to Haryana, UP, Uttarakhand, various Central Departments including RVS, FSSAI and DCGI etc. and assisted the mission in undertaking its activities successfully.

- Officers of the institute participated in various Scientific Conferences and meetings.

- Public Awareness fortnight campaigns (17-18 May 2018, 15 September to 2 October 2018, 16-31 December 2018) under Swachhh Bharat Abhiyan were carried out enthusiastically by all the staff and officers of the Institute, in different villages near the Institute whereby information regarding benefits of personal hygiene, environmental hygiene, food hygiene and water hygiene was imparted. Besides all officers regularly contribute two hours weekly under Swachhh Bharat Mission by taking up cleanliness activities in and around the Institute campus. Active

participation of all permanent employees and contractual manpower is ensured.

- A team of CAG auditors conducted audit of the institute (covering a period 2012-13 to 2016-17) w.e.f. 20 March – 31 March 2018 without any significant Para. Another team of auditors from the Office of CCA, Ministry of Agriculture and Farmers Welfare conducted internal audit for the period 2006-07 to 2017-18 during 02-10.07.2018.

- Three Officers of institute effectively coordinated and monitored the activities of Kisan Kalyan Abhiyan (First Phase) in three districts of UP namely Chitrakoot, Bahariach and Shrawasti.

- Two officers of the institute have undergone training for auditors as per ISO 17025:2017 conducted jointly by International Accreditation Services USA and Quality and Accreditation Institute of India at New Delhi on 11-13 Sept 2018

- The Director of the institute attended and chaired the 2<sup>nd</sup> meeting of the SAARC EpiNet Forum organized by FAO and SAARC at Bangkok, Thailand during 1-3 October 2018.

- The Director of the institute attended and represented the Indian delegate to OIE in the 2nd OIE Global Conference on 'Antimicrobial Resistance and Prudent Use of Antimicrobial Agents in Animals: Putting Standards into Practice' Marrakesh (Morocco) during 29 - 31 October 2018.

- Institute celebrated national festivals Republic Day (on 26<sup>th</sup> January) and Independence Day (on 15<sup>th</sup> August) with full zeal and enthusiasm.

- Institute observed the 'International Yoga Day' on 21<sup>st</sup> June 2018 and organized a yoga camp in the campus. All the staff members including their families and contractual workers participated in the event.

### 3.5.3 Central/Regional Disease Diagnostic Laboratories

3.5.3.1 In order to provide referral services over and above the 250 existing disease diagnostic

laboratories in the States, one Central and five Regional Disease Diagnostic Laboratories have been set up by strengthening the existing facilities. The Centre for Animal Disease Research and Diagnosis (CADRAD) of Indian Veterinary Research Institute, Izatnagar is functioning as Central Laboratory. The Disease Investigation Laboratory, Pune, Institute of Animal Health and Veterinary Biologics, Kolkata, Institute of Animal Health & Biologics, Bangalore, Animal Health Institute, Jalandhar and Institute of Veterinary Biologics, Khanapara, Guwahati are functioning as referral laboratories for Western, Eastern, Southern, Northern and North-Eastern regions respectively. The laboratories at NRDDL (Jalandhar), SRDDL (Bangalore), ERDDL (Kolkata) and CDDL (Izatnagar) have been strengthened with pre-fabricated BSL-III laboratories while a mobile BSL-III laboratory is functional at NERDDL, Guwahati. These RDDs have been of great help to the country for surveillance and diagnosis of various livestock and poultry diseases including Avian Influenza

#### Performance of Veterinary Service (PVS) Evaluation of India by the World Organization for Animal Health (OIE)

The PVS Evaluation of India was conducted by OIE- World Organization for Animal Health in 2 phases from 19<sup>th</sup> February to 9<sup>th</sup> March 2018 and 11<sup>th</sup> April to 2<sup>nd</sup> May 2018. The OIE-PVS Mission Team with Dr. John Weaver as Team Leader and Dr. Howard Batho, Dr. Susanne Munstermann & Dr. John Woodford as Evaluation Members and Dr. Caitlin Holley and Dr. John Stratton as OIE Observers visited 21 States and 2 Union Territories in India. During their visit the Mission team evaluated different veterinary institutions like Veterinary Universities, Colleges, ICAR-Animal Science Institutes, Diseases Diagnostic Laboratories, Biological production units, Semen Stations, Livestock Farms, Slaughter houses, Feed mills and Veterinary Hospitals & Dispensaries etc. and interacted with different stakeholders and livestock farmers across the country. The team



had a detailed discussion with Hon'ble Minister of State for Agriculture Smt. Krishna Raj on 11<sup>th</sup> April 2018 at Krishi Bhawan. The closing meeting on 2<sup>nd</sup> May 2018 was chaired by

Secretary, ADF during which the team leader presented a preliminary evaluation summary. The PVS Evaluation Report has been submitted



**Discussion with Hon'ble Minister of State on 11<sup>th</sup> April 2018**

by OIE and it is under review in the Department for final release.

### 3.6 Livestock Health & Disease Control

3.6.1 In order to effectively tackle the issue of livestock health, the Department is supplementing the activities of the State Governments / Union Territories by way of providing assistance through 'Livestock Health & Disease Control Scheme (LH&DC). During 2015-16, the scheme has been categorized under State plan with change funding pattern. Now, the scheme has been clubbed under umbrella scheme " White Revolution - Rastriya Pashudhan Vikas Yojana" as "Veterinary Services" and funding pattern has been changed to 60:40 between Centre and State (90:10 for the 8 North Eastern and 3 Himalayan States and UT's 100%). The scheme is having following components:

- (a) Assistance to States for Control of Animal Diseases (ASCAD)
- (b) Professional Efficiency Development (PED)
- (c) National Project on Rinderpest Surveillance & Monitoring (NPRSM)
- (d) Foot and Mouth Disease Control Programme (FMD-CP)



**Closing Meeting at DADF on 2<sup>nd</sup> May 2018**

- (e) National Animal Disease Reporting System (NADRS)
- (f) Peste des Petits Ruminants Control Programme (PPR-CP)
- (g) Brucellosis Control Programme (Brucellosis -CP)
- (h) Establishment and Strengthening of existing Veterinary Hospitals and Dispensaries (ESVHD).
- (i) Classical Swine Fever Control Programme (CSF-CP).

#### 3.6.2 Assistance to States for Control of Animal Diseases (ASCAD)

3.6.2.1 Under this component, assistance is provided to State/Union Territory Governments for control of economically important diseases of livestock and poultry by way of immunization, strengthening of existing State Veterinary Biological Production Units, strengthening of existing Disease Diagnostic Laboratories and in-service training to Veterinarians and Para-veterinarians. Under this programme funds are also provided for immunization against canine rabies and control of endo-parasites in cattle

& buffaloes. The state biological production units are also being strengthened to make them GMP compliant under this scheme.

**3.6.2.2** Against BE of Rs.508.77 crore and RE of Rs.391.43 crore under LH&DC scheme during 2018-19, an amount of Rs.22.234 crore has been released till 31<sup>st</sup> March, 2019 for implementation of ASCAD component.

### **3.6.3 Professional Efficiency Development (PED)**

**3.6.3.1** Professional Efficiency Development envisages establishment of Veterinary Council of India at Centre and State Veterinary Council at State level in those States, which have adopted the Indian Veterinary Council Act, 1984. Accordingly, Veterinary Councils have been established in States and UTs. The Central Government provides 100% funds for functioning of Veterinary Council of India (VCI) and 50% funds to State Veterinary Council for running Continuing Veterinary Education (CVE) programme of State Veterinary Councils. Apart from State Veterinary Councils, Central/State Veterinary Agricultural Universities may also impart Continuing Veterinary Education.

### **3.6.4 National Project on Rinderpest Surveillance and Monitoring (NPRSM)**

**3.6.4.1** The main objective of the scheme is to strengthen the veterinary services to maintain required vigil to sustain the country's freedom from Rinderpest & Contagious Bovine Pleuro-pneumonia (CBPP) infection secured in 1<sup>st</sup> November, 2006 and May, 2007 respectively.

Under the programme, surveillance of various animal disease including Syndromic diseases with more focus on Contagious Bovine Pleuro-pneumonia (CBPP) and Bovine Spongiform Encephalopathy (BSE) are being undertaken throughout the country to maintain India's freedom status from these diseases. This physical surveillance is done with the help of the staff of Animal Husbandry Department of the States & Union Territories to maintain the freedom status.

Against BE of Rs.508.77 crore and RE of Rs.391.43 crore under LH&DC scheme during 2018-19, an amount of Rs.1.53 crore has been released till

31<sup>st</sup> March, 2019 for implementation of NPRSM component. The freedom status of these diseases is maintained.

### **3.6.5 Foot & Mouth Disease Control Programme (FMD-CP)**

**3.6.5.1** Foot and Mouth Disease is a highly contagious viral disease primarily of cattle, buffaloes and pigs. However other animals namely sheep, goats and several other species of wild and captive animals are also susceptible to the disease. Therefore, in order to prevent economic losses due to Foot and Mouth Disease and to develop herd immunity in cloven-footed animals, a programme called 'Foot and Mouth Disease Control Programme (FMD-CP)' is being implemented in the country. The intensive Foot & Mouth Control Programme was under implementation since 10<sup>th</sup> Five Year Plan (2003-04) initially in selected 54 districts covering 8 States and 6 UTs. The programme was further extended to cover more States in phases gradually during 11<sup>th</sup> and 12<sup>th</sup> Five Year Plans. As of now the programme is being implemented covering all the States and Union Territories of the country.

**3.6.5.2** The major activities of the intensive programme component is for vaccination of all the eligible cattle and buffaloes at six monthly interval, Publicity and Mass Awareness Campaign, including orientation of the State functionaries for implementation of the scheme, Sero-surveillance/monitoring of animal population on random basis, procurement of cold cabinets, assessment of the randomly collected samples of vaccines for their quality, virus typing in case of outbreaks and recording/regulation of animal movement from unvaccinated areas through temporary quarantine/ check-posts. To assess the effectiveness of the vaccination programme, serum samples of 10 cattle and 10 buffalo (at random) before vaccination and 21 - 30 days post vaccination from 10 villages at random from each district for each round of vaccination is collected and screened for level of serotype specific neutralizing antibodies. A total of 400 serum samples per district per round of vaccination are collected at random and tested.



Foot and Mouth disease Control Programme has been endorsed by the OIE in May 2015 as per the OIE guidelines. OIE Expert Mission has visited India during 18-29 June 2018 for assessment of the progress with regard to the OIE Endorsed Control Programme for FMD.

**3.6.5.3** Against BE of Rs.508.77 crore and RE of Rs.391.43 crore under LH&DC scheme during 2018-19, an amount of Rs.308.792 crore has been released till

31<sup>st</sup> March, 2019 for implementation of FMD-CP component. During 2018-19, about 372.59 million vaccinations have been carried out till 31<sup>st</sup> March, 2019.

Based on the effective implementation of the FMD Control Programme, India has submitted a dossier proposing for two FMD Free Zones with vaccination, viz. Zone-I Telangana & Andhra Pradesh and Zone -II Maharashtra, following guidelines of World Organization for Animal Health (OIE).

### **3.6.6 National Animal Disease Reporting System (NADRS)**

**3.6.6.1** In order to streamline the system of animal disease reporting from States/UTs, a web based Information Technology system for reporting the diseases from the field level has been implemented known as National Animal Disease Reporting System (NADRS). It is a part of the Centrally Sponsored Scheme, “Livestock Health and Disease Control” and has been executed through National Informatics Centre (NIC). The main objective of NADRS is to record and monitor livestock disease situation in the country with a view to initiate preventive and curative action in a timely and speedy manner. The NADRS involves a computerized network, linking each Block, District and the State/UT Headquarters in the country to the Central Project Monitoring Unit in the Department of Animal Husbandry, Dairying and Fisheries at New Delhi. NADRS is a web based System which will report the occurrence of animal diseases data from the Block & District level Veterinary Units.

**3.6.6.2** Central Project Monitoring Unit (CPMU) for analyzing the animal disease data received through NADRS has been established at New Delhi. The scheme was formally inaugurated in February 2013. Department has made improvements in the scheme based on inputs from the stakeholders. All the nodes under the project are provided with Broadband internet (BB internet) for smooth transmission of animal disease data. The software for data entry in

NADRS has been modified to make it more user friendly and revamped/ reoriented on the technical and operational front giving rise to NADRS 2.0 application. A mobile android application for the NADRS 2.0 app is also developed for capturing of animal disease information in terms of First Information Report (FIR), Daily Incidence (DI) cases and Vaccination coverage from the Block veterinary units.

**3.6.6.3.** Against BE of Rs.508.77 crore and RE of Rs.391.43 crore under LH&DC scheme during 2018-19, an amount of Rs.7.62 crore was released to BSNL for internet connectivity for implementation of NADRS component.

**3.6.6.4** The disease outbreak information compiled at headquarters is notified to World Organization for Animal Health (OIE) on every six monthly basis. Incidence of diseases of livestock and Poultry in India during year 2018 is at **Annexure-X**.

### **3.6.7 Peste des Petits Ruminants Control Programme (PPR-CP)**

**3.6.7.1** The Peste des Petits Ruminants (PPR) is a viral disease characterized by high fever, inflammation of the gastro-intestinal tract leading to necrosis and ulceration of the mucous membrane and diarrhea. The PPR infection causes huge losses in the rural economy, both in terms of morbidity and mortality in sheep and goats. The PPR Control Programme involving intensive vaccination of susceptible animals has been started in 2010 on 100% central

assistance basis. The programme involves vaccinating all susceptible goats & sheep and three subsequent generations. Under first phase, States of Kerala, Tamil Nadu, Karnataka, Andhra Pradesh, Maharashtra, Goa and UTs of Lakshadweep, Daman & Diu, Dadra & Nagar Haveli, Andaman & Nicobar Islands and Pondicherry were covered. In the second phase, the programme has been implemented in all States during 2014-15. It is expected that by the end of 12<sup>th</sup> Plan, the disease is expected to be brought under control.

**3.5.7.2** Against BE of Rs.508.77 crore and RE of Rs.391.43 crore under LH&DC scheme during 2018-19, an amount of Rs. 34.462 crore was released to States/UTs till 31<sup>st</sup> March, 2019 for implementation under PPR-CP component. About 46.5 million vaccinations have been carried out till March, 2019.

### **3.6.8 Brucellosis Control Programme (Brucellosis - CP)**

**3.6.8.1** Brucellosis, an economically important Zoonotic disease has become endemic in most parts of the country. It causes abortions and infertility in animals. Prevention of abortions will add new calves to the animal population leading to enhanced milk production. This new component has started in 2010 and central assistance is provided to States/UTs for mass vaccination of all female calves of age between 6-8 months in the areas, where incidence of the disease is high.

**3.6.8.2** Against BE of Rs. 508.77 crore and RE of Rs.391.43 crore under LH&DC scheme during 2018-19, an amount of Rs.3.00 crore has been allocated and an amount of Rs. 0.6864 crore has been released to States/UTs till 31<sup>st</sup> March, 2019 for implementation under B-CP component. About 0.06 million vaccinations of eligible female calves have been carried out.

### **3.6.9 Establishment and Strengthening of Existing Veterinary Hospitals and Dispensaries (ESVHD)**

**3.5.9.1** In order to assist the States to set up infrastructure for new veterinary hospitals and dispensaries and to strengthen/equip the existing ones, the Department is providing funds on 60:40

(Centre: State) sharing basis except NE and Himalayan States, where the grants are provided on 90:10 basis.

**3.5.9.2** Against BE of Rs.508.77 crore and RE of Rs.391.43 crore under LH&DC scheme during 2018-19, an amount of Rs.30.30 crores has been allocated and an amount of Rs.7.198 crore has been released to 7 States/UTs for implementation construction/strengthening of Veterinary Hospitals/Dispensaries under ESVHD component.

### **3.6.10 Classical Swine Fever Control Programme (CSF-CP)**

**3.6.10.1** In order to control the CSF disease in pigs, a new component namely, 'Classical Swine Fever Control Programme (CSF-CP)' has been added in the existing scheme of LH&DC during 2014-15. Funds on 90% central share basis are provided to the States for carrying out the vaccination of entire eligible pig population in a phased manner starting in NE States. Depending on the vaccine availability, the scope will be enlarged to cover entire country subsequently. Against BE of Rs.508.77 crore and RE of Rs.391.43 crore under LH&DC scheme during 2018-19, funds to the tune of Rs.0.76 crore has been released to four North Eastern States.

### **3.7 Avian Influenza: Preparedness, Control and Containment**

**3.7.1** Since 2006, the country has been reporting H5N1 Avian Influenza virus, it is first time during 2017 that country has reported a new virus H5N8 in migratory birds and poultry as well, in States of Delhi, Madhya Pradesh, Kerala, Karnataka, Punjab and Haryana. The Government carried out the control and containment operations immediately and contained the disease. The guidelines were further devised for Zoological Parks and were issued to them for necessary action.

**3.7.2** Department has evolved an Action Plan for Prevention, Control & Containment of Avian Influenza (AI), known as Bird Flu. States/UTs are provided financial assistance under ASCAD for above activities. Department has recently issued a revised surveillance plan for robust efforts in prevention of Avian Influenza in the country.

Details of Avian Influenza outbreaks since Feb. 2006 till 31<sup>st</sup> December, 2018 are given as under:

**Table 3.4: Outbreaks of Avian Influenza upto 31<sup>st</sup> December, 2018**

Episode	Period	State Affected	Number of Epicenters	No. of birds culled (in lakhs)	Compensation paid (in ` in lakh)
1 <sup>st</sup>	Feb – Apr, 2006	Maharashtra	28	9.4	270.00
	Feb, 2006	Gujarat	1	0.92	32.00
2 <sup>nd</sup>	Mar, 2006	Madhya Pradesh	1	0.09	3.00
3 <sup>rd</sup>	July, 2007	Manipur	1	3.39	94.00
4 <sup>th</sup>	Jan – May, 2008	West Bengal (1st episode)	68	42.62	1229.00
5 <sup>th</sup>	Apr, 2008	Tripura	3	1.93	71.00
6 <sup>th</sup>	Nov – Dec, 2008	Assam	18	5.09	170.00
7 <sup>th</sup>	Dec, 2008 – May, 2009	West Bengal (2nd episode)	11	2.01	36.00
8 <sup>th</sup>	Jan, 2009	Sikkim	1	0.04	3.00
9 <sup>th</sup>	Jan, 2010	West Bengal (3rd episode)	12	1.56	68.80
10 <sup>th</sup>	Feb – Mar, 2011	Tripura	2	0.21	2.40
11 <sup>th</sup>	8th September, 2011	Assam	1	0.15	6.52
12 <sup>th</sup>	19th September, 2011	West Bengal	2	0.49	19.29
13 <sup>th</sup>	11th January, 2012	Odisha	1	0.32	24.71
14 <sup>th</sup>	13th January, 2012	Meghalaya	1	0.07	7.89
15 <sup>th</sup>	17th January, 2012	Odisha	1	0.11	5.87
16 <sup>th</sup>	28th January, 2012	Tripura	1	0.06	1.20
17 <sup>th</sup>	4th February, 2012	Odisha	1	0.38	2.86
18 <sup>th</sup>	15th March, 2012	Tripura	1	0.05	0.09
19 <sup>th</sup>	28th April, 2012	Tripura	1	0.02	0.72
20 <sup>th</sup>	25th October, 2012	Karnataka	1	0.33	Nil
21 <sup>st</sup>	8th March, 2013	Bihar	1	0.06	2.06
22 <sup>nd</sup>	5th August, 2013	Chhattisgarh	2	0.31	Nil
23 <sup>rd</sup>	November-December, 2014	Kerala	6	2.77	379.51
24 <sup>th</sup>	18th December, 2014	Chandigarh	1	.00110	0.00
25 <sup>th</sup>	25th January, 2015	Kerala	1	0.08	2.16

26 <sup>th</sup>	13 <sup>th</sup> march, 2015	Uttar Pradesh	1	.00844	-
27 <sup>th</sup>	13 <sup>th</sup> April, 2015	Telangana	1	1.60	176.80
28 <sup>th</sup>	18 <sup>th</sup> April, 2015	Manipur	1	0.21	13.89
29 <sup>th</sup>	16 <sup>th</sup> January, 2016	Tripura	1	0.08	0 .27
30 <sup>th</sup>	9 <sup>th</sup> May, 2016	Karnataka	1	1.21	**
31 <sup>st</sup>	17 <sup>th</sup> October, 2016	Delhi*	1	-	-
32 <sup>nd</sup>	21 <sup>st</sup> October, 2016	Madhya Pradesh*	1	-	-
33 <sup>rd</sup>	24 <sup>th</sup> October, 2016	Kerala	25	7.45345	-
34 <sup>th</sup>	25 <sup>th</sup> October, 2016	Punjab	1	0.00033	-
35 <sup>th</sup>	3 <sup>rd</sup> November, 2016	Haryana	1	0.00944	-
36 <sup>th</sup>	10 <sup>th</sup> November, 2016	Karnataka	1	0.00693	-
37 <sup>th</sup>	26 <sup>th</sup> December, 2016	Odisha	1	-	-
38 <sup>th</sup>	3 <sup>rd</sup> January, 2017	Gujarat	1	0.01676	0
39 <sup>th</sup>	7 <sup>th</sup> January 2017	Odisha	1	0.1646	0.83289
40 <sup>th</sup>	7 <sup>th</sup> January, 2017	Daman	1	0.00017	-
41 <sup>st</sup>	12 <sup>th</sup> January, 2017	Gujarat	1	0.00159	-
42 <sup>nd</sup>	13 <sup>th</sup> February, 2017	Odisha	1	0.01240	0.11780
43 <sup>rd</sup>	2 <sup>nd</sup> January, 2018	Karnataka	1	0.00942	-
44 <sup>th</sup>	11 <sup>th</sup> February, 2018	Odisha	1	0.01823	-
45 <sup>th</sup>	23 <sup>rd</sup> March, 2018	Uttar Pradesh*	1	-	-
47 <sup>th</sup>	12 <sup>th</sup> December, 2018	Odisha***	9	0.13862	5.892
48 <sup>th</sup>	19 <sup>th</sup> December 2018	Bihar***	3	0.04577	3.6232
49 <sup>th</sup>	5 <sup>th</sup> February, 2019	Jharkhand	1	0.04823	3.8078
<b>Total</b>			<b>225</b>	<b>83.49548</b>	<b>2637.314</b>

\*Un-domesticated birds

\*\*\* Post Operation Surveillance Plan (POSP) is under process.

**3.7.3** The following measures have been taken up by the Government of India for control and containment of current Avian Influenza outbreak as well as to prevent its ingress into the country.

- (i) The Surveillance Plan on Avian Influenza in the country<sup>1</sup> has been prepared in November, 2013 and

circulated to the State/UT Governments/ Regional laboratories etc. for implementation.

- (ii) The Action Plan on "Preparedness, Control and Containment of Avian Influenza" was revised in 2015 and circulated to the State/UT Governments for implementation.



New guidelines have been devised for Zoological Parks.

- (iii) Culling of entire poultry population in the affected zone of 0-1 Km is being carried out.
- (iv) Continuous strengthening of preparedness to tackle any future eventuality in terms of up gradation of laboratories, training of manpower, stockpiling of materials for control and containment etc.
- (v) Training veterinary personnel in preparedness control and containment is continuing. About 90% veterinary work force in the country has been trained to handle control and containment operations. Besides, 44395 number of community workers have been trained on reporting of Avian Influenza expeditiously.
- (vi) To strengthen the diagnosis of Avian Influenza, four pre-fabricated Bio-Safety Level 3 (BSL 3) laboratories have been established at Jalandhar, Kolkata, Bangalore & Bareilly. The laboratories are already functional. A mobile BSL-III laboratory has also been provided to NERDDL, Guwahati which is functional too. 23 State Disease Diagnostic Laboratories are being upgraded to BSL 2 level, out of which eighteen laboratories are already functional. The remaining are at various stages of completion.
- (vii) Reserve of essential material for control operations have been developed and are being expanded further.
- (viii) Sensitization of general public on Avian Influenza through

Information, Education and Communication (IEC) campaigns.

- (ix) Transparent approach towards reporting not only outbreaks but also information of unusual sickness/mortality in poultry and results of laboratory diagnosis.
- (x) All the state governments are alerted from time to time to be vigilant about the outbreak of the disease, if any.
- (xi) Imports of poultry and poultry products have been banned completely from HPAI positive countries.
- (xii) Border check posts with neighboring countries have been alerted.
- (xiii) Advisories are issued to the States for further guidance of poultry farmers from time to time on various aspects of disease control, surveillance and importance of bio security.

### 3.8 Animal Husbandry Statistics

**3.8.1** The Schemes of Livestock Census and Integrated Sample Survey are continuing Central Sector Scheme. Currently the Schemes are placed as central components under “White Revolution”.

#### 3.8.1.1 Integrated Sample Survey

The scheme is implemented throughout the country to bring out estimates of Major Livestock Products (MLP) such as Milk, Egg, Meat and Wool. Under the scheme the estimates are to be brought out annually which is used for policy and planning purposes All the States and Union Territories are implementing the Scheme with Central Assistance to the tune of 50%, 90% and 100% to the ONER States, NE States and UTs respectively for the expenditure on salary for the entitled posts. 100% Central Assistance is also provided for (i)TA/DA to the Enumerator and



Supervisor for the conduct of the survey at a prescribed rate; and (ii) refresher training on ISS methodology. The sample survey is conducted from March to February on seasonal basis by dividing in 3 seasons; Summer, Rainy and Winter. The State/UT level seasonal estimates were compiled by Animal Husbandry Statistics Division, DADF and Annual Estimates for the year 2017-18 have been brought out. The estimates are accordingly published in Annual Publication “Basic Animal Husbandry and Fishery Statistics (BAH&FS)-2018” of the Department.

The “Technical Committee on Direction for Improvement of Animal Husbandry Statistics (TCD)” guides the Department in implementation of the ISS scheme. The Animal Husbandry Commissioner (AHC), DADF is the Chairman of TCD. The last TCD Meeting was

held during 13<sup>th</sup> and 14<sup>th</sup> November, 2018 at Telangana State Institute of Rural Development (TSIRD), Hyderabad, Telangana.

### **3.8.1.2 Livestock Census**

The First Livestock Census was conducted during 1919-1920 and since then it is being conducted quinquennially by all States/UTs in India. It is the only source, which gives disaggregated information on various species of animals and poultry birds. The present census is 20<sup>th</sup> in the series which is held in participation with Animal Husbandry Departments of States/UTs. The main objective of Livestock Census is to provide information on livestock population, species-wise and breed-wise along with age, sex-composition etc. in rural and urban areas.

## **CHAPTER 4**

# **DAIRY DEVELOPMENT**

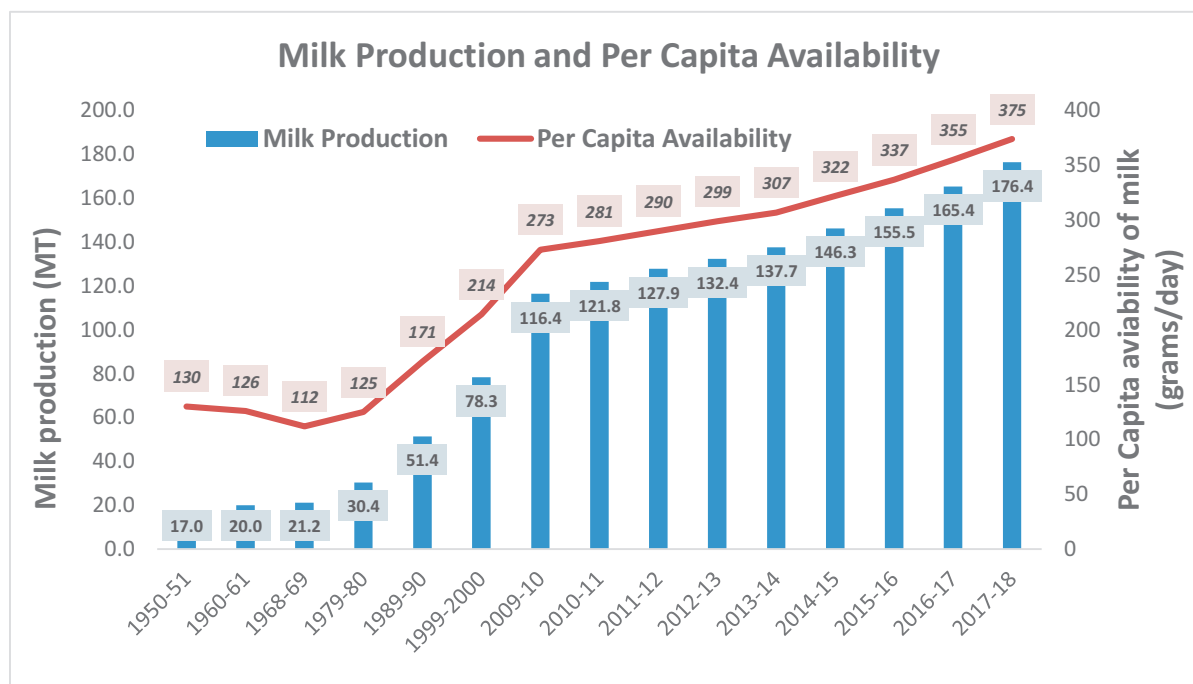


## DAIRY DEVELOPMENT

### 4.1 Overview

The Dairy sector in India has grown substantially over the years. As a result of prudent policy intervention, India ranks **first among the world's milk producing nations**, achieving an annual output of 176.35 million tonnes during the year 2017-18<sup>1</sup> as compared to

165.4 million tonnes during 2016-17 recording a growth rate of 6.62%. FAO reported 1.41% increase in world milk production from 799.6 million tonnes in 2016<sup>2</sup> to 810.9 million tonnes in 2017<sup>2</sup>. This represents a sustained growth in the availability of milk and milk products for growing population.



Dairying has become an important secondary source of income for millions of rural families and has assumed the most important role in providing employment and income generating opportunities particularly for women and marginal farmers. The per capita availability of milk has reached a level of 375 grams per day during the year 2017-18<sup>1</sup>, which is more than the world average of around 294.2 grams per day in 2017<sup>2</sup>. Most of the milk in the Country is produced by small, marginal farmers and landless laborers.

#### 4.1.1 Economic Significance of Dairying

Livestock sub-sector plays a vital role in the Indian economy and also in the socio-economic development of millions of rural households. Livestock is a principal source of

draught power in rural areas and provides milk, meat, eggs, wool, hides & skins, manure and fuel. It accounts for about 26.2% of the Gross Value Added (GVA)<sup>1</sup> of Agriculture & allied sector. Although, the contribution of agriculture & allied sector to the national Gross Domestic Product (GDP) has declined during past few decades, the contribution of the livestock sub-sector has remained stable. In real terms, the contribution of agriculture & allied sector to the national GDP has been falling from a level of 23% in 1999-2000 to 17.4% in 2017-18<sup>3</sup>. However, the contribution of livestock to the total GDP has been around 4% during the same period. This also implies that share of livestock has sustainably increased within agricultural GDP.

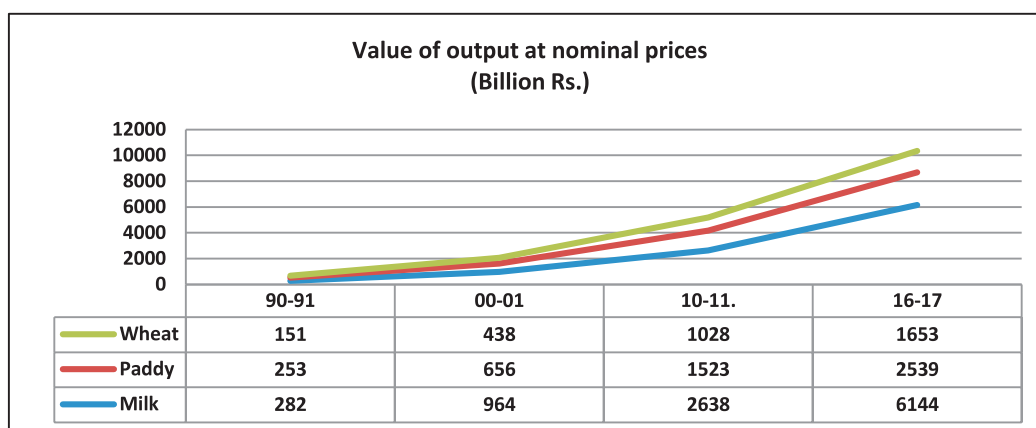
*Meaning of the Superscript has been given at the end of the chapter.*



Milk & milk products constitute a major share of the value of output from the livestock sub-sector; their share increased from less than 50% in 1950-51 to 68% in 2015-16. Milk has become the single largest agricultural

commodity in terms of the value of commodity produced. The value of milk output in 2015-16<sup>4</sup> was Rs. 5,496 billion – surpassing total value of output from food grains.

### Value of output in 2016-17

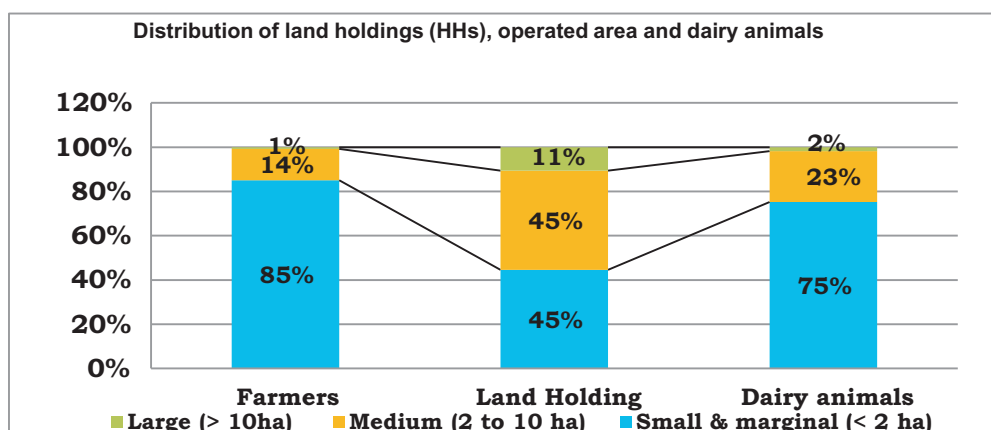


#### 4.1.2 Dairy as a source of livelihood

Dairying plays an important role in socio-economic development of rural households in the country. About 80 million rural household are engaged in milk production with very high proportion being small & marginal farmers and landless.

Livestock holding in general and milch-animal holding in particular, is far more equitable than land holding. About 85% of the total farmers are small and marginal<sup>5</sup>, they together own about 47% of farm land whereas own about 75% of milch animals<sup>6</sup> (please refer the figure below).

### Category wise farmer's land holding and animal holding

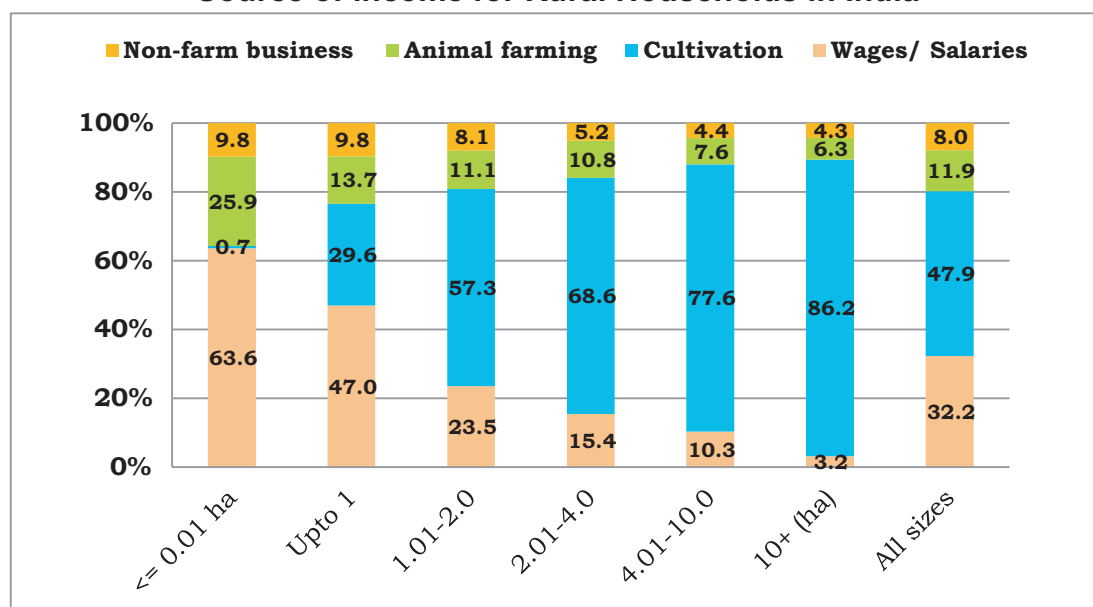


Source: Basic Animal Husbandary & Fisheries Statistics, DADF

Small land base encourage farmers to practice dairying as an occupation subsidiary to agriculture. Income from crop production is seasonal, whereas dairying provides year-round income and generates gainful employment in the rural sector. Therefore, it is an important economic incentive for the landless, small & marginal farmers particularly women to take up dairying as a source of livelihood. Further, women contribute large portion of requirement of labour in dairying. The dairy sector is therefore an important vehicle for inclusive development in the country.

Unlike leading milk producing countries in the world, large proportion of milk producers (about 95%) in the country hold 1 to 5 milch animals per household as a part of subsistence farming system. The livestock sub-sector contributes significantly to the rural income - about 26%<sup>7</sup>, of which 78.3% is from milk in case of the poorest farmers' (farmers with less than 0.01 Ha of land holding) and about 12%<sup>7</sup> in case of all classes of farmers. About 69% of income from "farming of animals" is attributed to income from dairying (milk). (please refer the table below)

**Source of income for Rural Households in India**



Source: NSSO

During 2003 to 2013, the share of income from "farming of animals" increased from 4.3% to 12%, while the share from both non-farm business and wages & salaries declined over this period. All these indicate that any intervention in dairying would directly contribute towards poverty alleviation and improve income of farmers.

#### 4.1.3 Share of milk production and supply

In India, about 46% of the milk produced is either consumed at the producer level or sold to non-producers in the rural area, the balance 54% of the milk is available for sale to organised and unorganised players. Organised sector comprise of Government, Producers' Owned Institutions (Milk Cooperatives & Producer Companies) and

Private players which provides fair and transparent system of milk collection round the year at the village level. Unorganized/informal sector involves local milkman, dudhias, contractors etc. and they are mostly found to be opportunistic, as there is no uniformity of milk price paid to producers and it varies depending upon the situation. Possibility of adulteration of milk is higher among these unorganized groups. In the areas where competition is high and presence of formal sector is strong, they generally give higher prices and at the same time, they don't offer remunerative prices to the producers where organized sector is not present.

#### 4.1.4 Demand

The drivers of demand for milk in India are - population growth, urbanisation and increasing per capita income. The consumption of milk has been rising, commensurate with the increase in purchasing power of people, changing food habits & life-styles and demographic growth. Milk with its varied benefits is the only source of animal protein for the largely vegetarian population of the country. Further, factors such as increased consumer interest in high protein diets and increasing awareness & availability of dairy products through channels such as organised retail chain are also driving this growth.

According to Mckinsey Global Institute Report, 2010, India's urban population grew from 290 million reported in the 2001 census to an estimated 340 million in 2008, and it is projected that it could soar further to 590 million by 2030. This indicates that urbanisation in India is growing at a comparatively higher rate, as it took 40 years (between 1971 to 2008) for India's urban population to rise by 230 million, however, it could take only half that time to add the next 250 million. Similarly, the number of households nationwide earning less than Rs. 90,000 per year is projected to fall below 20%, while the number of middle class households (earning between Rs. 0.2 million and Rs. 1 million a year) will increase more than fourfold from 32 million to 147 million.

The milk consuming population has been consistently rising in the country both in rural and urban areas. According to Consumer Expenditure Survey (CES, 2011-12) of NSSO, about 78% and 85% of rural and urban population respectively reported consumption of milk in the country. The growth in above factors indicates that the demand for milk & milk products will rise consistently in future.

#### 4.1.5 Organised Sector

##### 4.1.5.1 Cooperative Sector

##### Three tier structure

**Village Cooperative Society:** The main pattern followed by Village Cooperative Societies in India is an Anand model village dairy cooperative society (DCS) of milk producers. Any producer can become a DCS member by buying a share and committing to sell milk only to the society. Each DCS has a milk collection centre where members take milk every day. Each member's milk is tested for quality with payments based on the %age of fat and SNF. At the end of each year, a portion of the DCS profits is used to pay each member a patronage bonus based on the quantity of milk poured.

**The District Union:** A District Cooperative Milk Producers' Union is owned by dairy cooperative societies. The Union buys all the societies' milk, then processes and markets fluid milk and products. Most Unions also provide a range of inputs and services to DCSs and their members: feed, veterinary care, artificial insemination to sustain the growth of milk production and the cooperatives' business. Union staff train and provide consulting services to support DCS leaders and staff.

**The State Federation:** The cooperative milk producers' unions in a state form, a State Federation, which is responsible for marketing the fluid milk and products of member unions. Some federations also manufacture feed and support other union activities.

**The Current status<sup>8</sup>:** At present 210 Dairy Cooperative Milk Unions exist which cover

about 16.54 million farmers under the ambit of 1,85,903 village level dairy corporative societies. The Cooperative Milk Unions have procured an average of 495.62 Lakh Kg per day of milk during the year 2018-19 as compared to 472.96 lakh per day in the previous year recording a growth of 4.7%. The sale of liquid milk by the Cooperative Dairies has reached 326.80 lakh liters per day during the year 2018-19 as compared to 337.34 lakh liters per day registering a decline of 3.1% over the previous year.

#### 4.1.5.2 Milk Producer Companies

NDDDB Dairy Services (NDS), the wholly owned subsidiary of NDDDB, facilitated incorporation of Indujaa Mahila Milk Producer Company (MPC) in Yavatmal, Maharashtra, while three more Producer companies, two in Madhya Pradesh and one in Uttar Pradesh are in the process of incorporation during the year. Three MPCs, two in Uttar Pradesh & one in Bihar namely Muktaa, Maalav & Kaushikee Mahila Milk Producer Company respectively which were incorporated last year got operationalized this year.

Thus far, NDS has facilitated incorporation of 14 Milk Producer Companies out of which 13 have been operationalized and remaining one is expected to be operationalized soon. Out of the 14 MPCs, six are being supported under National Dairy Plan (NDP), five are getting support from Tata Trusts and remaining three are being supported by NRLM/SRLM.

Together, these 13 operationalized MPCs have enrolled over 4 lakh milk producers as members from about 11,920 villages so far, of whom about 45 % are women. About 62 % of the members enrolled till date are small holder milk producers. These 13 companies together procured about 26 lakh kg of milk per day during the period. The members of these 13 companies contributed about Rs 104 crore towards share capital as on date. They are expected to achieve a combined sales turnover of about Rs 5825 crore during the year 2018-19.

#### 4.1.5.3 Private Dairy Sector

Post 1991, when the era of reform in industrial licensing began, the private sector companies have made an impressive growth in building capacities for processing milk and milk derivatives. They made large investment in dairy sector creating capacities which surpassed the combined capacity of the dairy cooperatives and the government dairies in past 20 years. Some of these private players are now much larger than some cooperative dairies and they have large potential for growth. Since Private Sector functions purely on commercial lines with an aim to earn maximum profit, the social responsibility towards farmer's development is largely affected. The Private Players prefer to procure milk through vendors affecting the farmer's getting remunerative price. However, growth in Private Sector provides market access to large number of farmers.

#### 4.2 Role of Dairy Division

- Increase in livestock production and productivity and increasing share of organised sector through improvement in procurement, processing and marketing of milk and milk products.
- Trade policy relating to milk & milk products.
- Monitoring of milk situation and Policy decisions to maintain supply of milk & milk products to the consumers and reasonable prices for milk to the milk producers.
- Approval of schemes/projects, review of progress, re-appropriation of physical & financial targets, audit and inspection, scheme/project Governance, signing of loan agreements with external/ domestic agencies, hedging liability, repayment of external loans etc.
- Quality improvement of milk and milk products in compliance to FSSAI Act.
- Formulation of national action plan and policy for implementation.



- Collection and updation of requisite data for suitable policy interventions

### 4.3 Milk Scenario

#### Domestic:

Milk Production is a seasonal phenomenon which increases during winter and decreases during summer. Indian Dairy sector experienced unprecedented crisis in disposal of surplus milk production and thereby ensuring regular payments to the farmers. Higher growth in milk production coupled with low export opportunity has resulted in piling up of huge stock of Skimmed milk powder and white butter. This coupled with the constraint of increasing domestic sale in a short period of time has aggravated the distress faced by the farmers.

The average milk procurement during 2018-19 was higher by 4.7% while liquid milk sale was lower by 3.1% when compared to 2017-18. The widening gap in milk procurement and sale had led to higher conversion of milk into milk products and white butter thereby causing higher stocks. The surplus milk is being converted into milk powder and butter having higher shelf life. The stocks of Skimmed Milk Powder (SMP) in cooperative sector went up to 2,13,971 metric tonnes (MT) and the stock of white butter gone up to 96,000 MT. This led to a supply side problem since the market network by cooperatives have been limited. This Department took three pronged strategy to address this problem which are as below:-

#### 4.3.1 Increasing Domestic Demand:

The Department of Animal Husbandry, Dairying and Fisheries had issued an advisory to States to include milk in the Mid-day Meal Scheme, Anganwadi Scheme etc. through dairy cooperatives to increase demand on a sustained basis. The Department of Food and Public Distribution was requested to consider inclusion of milk in the PDS system. The Ministry of Health and the Ministry of Women and Child Development was requested to include milk in their ongoing schemes. This will increase the consumption of milk and subsequently better returns to dairy farmers in flush season as well. The State Government of Bihar and Rajasthan issued order to provide milk powder to children of Anganwadi centres under ICDS. The matter was also taken up with NITI Aayog.

#### 4.3.2 Export Subsidy (MEIS):

On recommendation of this Department, D/o Commerce, Government of India vide Public Notice 23/2015-2020 dated 13.07.2018 has announced incentive of 10% for exports of all milk and milk products under Chapter 4 of ITC-HS as well as casein (3501) under the Merchandise Exports from India (MEIS scheme). This has been announced through Public Notice No. 23 dated July 13, 2018 (Valid for six months from 13.07.2018 to 12.01.2019). State Governments of Gujarat and Maharashtra have announced to provide subsidy of Rs 50/Kg for Skim Milk Powder.

As a result of above measures, export of milk and milk products has increased substantially during 2018-19, which may be given as below:

Export: Commodity-wise (Value)				
HS Code	Commodity	2016-17	2017-18	2018-19
		Value	Value	Value
0401	Milk and cream, not concentrated nor containing added sugar or other sweetening matter	2590.77	4917.62	5857.36
0402	Milk and cream, concentrated or containing added sugar or other sweetening matter	37796.44	30197.82	64692.32

0403	Buttermilk, curdled milk and cream, yoghurt, kephir and other fermented or acidified milk and cream	796.84	1006.31	784.94
0404	Whey and Whey products	85.17	332.24	3267.14
0405	Butter and other fats and oils derived from milk; Dairy spreads	31888.42	62548.67	142730.04
0406	Cheese and curd	17415.15	20634.38	24969.58
<b>Grand Total of all above products</b>		<b>90572.79</b>	<b>119637</b>	<b>242301.4</b>

**4.3.3 Supporting Dairy Cooperatives and Farmer Producer Organizations engaged in dairy activities:** A Scheme named “Supporting Dairy Cooperatives and Farmer Producer Organizations engaged in dairy activities” has been approved to provide working capital loan to State Cooperatives and Federations with a corpus of Rs.300 Crore. An amount of Rs. 3 Crore has been released to NDDDB during 2018-19.

#### 4.3.4 World:

**4.3.4.1.** Global milk production is forecast to increase to nearly 827 million tonnes in 2018, up 2.0 % from last year, with the largest gains foreseen in Asia, followed by Europe, the Americas, and also improved prospects for recovery in Africa and Oceania. While the new forecasts are broadly in line with those made in the July edition of Food Outlook, some previously unforeseen events have altered production expectations. Milk output growth dimmed somewhat in the EU due to exceptionally dry and warm weather during the summer months, and in the United States, due to higher than normal dairy cow culling, induced by reduced profit margins. Brazil's output prospects were negatively affected by the disruptions to the sector caused by a truck drivers' strike that began in May. By contrast, milk output in Asia is set to expand more rapidly than foreseen in July, with more buoyant results expected in China and Turkey, reinforced by stable-to-larger dairy herds and rising farmgate prices. Global trade in dairy products is anticipated to reach 74.5 million tonnes, up 2.5 % year-on-year, confirming the previously

projected rate of growth, underpinned by increases for all the main products: butter, cheese, Skim Milk Powder (SMP) and Whole Milk Powder (WMP). Much of the expected 2018 expansion in global exports is now foreseen to originate in the United States, Mexico, New Zealand, Argentina, Uruguay and Australia. As for the EU, the world's leading dairy supplier, export prospects have been downscaled and sales will likely fall somewhat below last year's level, in line with the lowered 2018 production outlook. Mexico, Algeria and Viet Nam look set to account for much of the anticipated increase in world dairy imports in 2018, while purchases by the Russian Federation and Brazil are forecast to record sharper contractions than foreseen in July. International dairy prices strengthened in the first five months of this year, reaching a peak in May. Since then, dairy prices have weakened, with the sharpest falls registered for butter, cheese and WMP, reflecting an easing of the tight conditions that had characterized those markets. Average SMP prices, however, remained stable reflecting generally well-balanced supply and demand conditions [Source: FAO: Food Outlook]. The global situation offer opportunity for exports to Indian Dairy Industry.

**4.3.4.2.** Due to in-depth examination and analysis of the situation and Sip (sanitary import permits) applications based on risk analysis criteria, the import of milk & milk products were reasonably lower than past years. The data will reveal that import have been substantially lower for products for which import applicants are received:-

Import: Commodity-wise (Value)				
HS Code	Commodity	2016-17	2017-18	2018-19
		Value	Value	Value
0401	Milk and cream, not concentrated nor containing added sugar or other sweetening matter	239.95	649.09	1268.54
0402	Milk and cream, concentrated or containing added sugar or other sweetening matter	649.91	2825.81	855.31
0403	Buttermilk, curdled milk and cream, yoghurt, kephir and other fermented or acidified milk and cream	99.15	1013.90	655.54
0404	Whey and Whey products	11055.09	14826.13	8557.27
0405	Butter and other fats and oils derived from milk; Dairy spreads	6293.17	3095.33	1426.78
0406	Cheese and curd	4682.98	5798.52	7085.26
Grand Total of all above products		<b>23020.25</b>	<b>28208.78</b>	<b>19848.70</b>

(Source: D/o Commerce)

#### 4.4 Dairy Development Schemes

Department is implementing Central Sector Scheme viz. National Programme for Dairy Development (NPDD), National Dairy Plan Phase – I (NDP-I), Dairy Entrepreneurship Development Scheme (DEDS), Supporting State Cooperative Dairy Federation (SSCDF) as a part of Umbrella Scheme namely “White Revolution”. This Department has also initiated a new scheme during December 2017 namely “Dairy Processing & Infrastructure Development Fund (DIDF)” successfully with the Technical Team and with the feedback and with the operational experiences, the schemes were restructured as per requirement and for betterment of dairy farmers.

##### 4.4.1 National Programme for Dairy Development (NPDD)

A restructured scheme titled “National Programme for Bovine Breeding and Dairy Development” (NPBB&DD) was launched in Feb-2014 with budgetary provision of Rs. 1800 Crore for implementation during 12th Plan, by merging of four ongoing schemes namely Integrated Dairy Development Programme (IDDP), Strengthening Infrastructure for Quality & Clean Milk Production (SIQ-CMP), Assistance to Cooperatives (A to C) and National Project for Cattle & Buffalo Breeding

(NPCBB). NPBB&DD have two components (a) National Programme for Bovine Breeding (NPBB) and (b) National Programme for Dairy Development (NPDD). The IDDP, CMP and A to C has been discontinued from April, 2017.

##### Objectives of NPDD

The NPDD focuses on creating/strengthening of infrastructure for Production of quality milk, Procurement, Processing and Marketing of Milk & Milk Products by the State Implementing Agency (SIA) i.e. State Cooperative Dairy Federations/ District Cooperative Milk Producers' Union.



##### Funding Pattern under NPDD

50% Grants-in-aid to NDP States, for non NDP States 75% grants to profit making milk unions with accumulated profit of more than Rs. 1 crore in previous Year, 90% grants to loss



making milk unions with accumulated profit of less than Rs. 1 crore in previous year, 90% grants to Hilly & North-Eastern States and 50% grants for rehabilitation of sick milk unions. The central assistance is restricted to Rs.15 crore per project and Rs. 5 crore for rehabilitation of the milk unions.

### Major components funded under the scheme

Milk Chilling, Milk Processing & Marketing, Milk Procurement, Input services, Cattle induction, Training of farmers and dairy personnel, information and communication technology etc.

### Outlay of NPDD

Against the budget provision of Rs. 280 crore during 2018-19, an amount of Rs. 269.98 crore has been released for implementation of the scheme up to 31.03.2019.

### Achievements under NPDD

96 projects in 28 States and 1 Union Territory have been approved with the total cost of Rs. 1139.55 crore (Central Share Rs. 865.37 crore) from 2014-15 to 2018-19 (till 31.03.2019). A total sum of Rs. 596.57 crore has been released for implementation of new projects approved under the scheme up to 31.03.2019. The State-wise

financial progress till March, 2019 is at **Annexure XI.**

### Physical Progress under NPDD

- 2.59 lakh new farmers were given benefit of membership by establishing 5291 new co-operative societies.
- 15.49 lakh litres per day new milk processing capacity has been established.
- 454 Bulk Milk Coolers with 4.36 lakh litres chilling capacity installed, 4343 Automatic Milk Collection Unit and Data Processing and Milk Collection Unit installed at village level dairy cooperative societies.
- 988 Milcoscreens, 399 Electronic Milk Adulteration Testing Equipments and 252 Butyro Refractometer has been approved for checking adulteration in milk.
- In principal approval has been granted for strengthening of milk testing laboratories of all 203 Cooperative Milk Unions in the country to check adulteration in milk.
- The State-wise physical progress, targets and achievements are at **Annexure-XII.**







**Assistance provided to Punjab Milk Federation under NPDD scheme**

#### **4.4.2 Dairy Entrepreneurship Development Scheme**

Dairy Entrepreneurship Development Scheme (DEDS) was started in September, 2010. This scheme is being implemented through NABARD which provides financial assistance to commercially bankable projects with loans from Commercial, Cooperative, Urban and Rural banks.

##### **Objective of the scheme**

To generate self-employment and provide infrastructure for dairy sector, to set up modern dairy farms and infrastructure for production of clean milk, to encourage heifer calf rearing for conservation and development of good breeding stock, to bring structural changes in the unorganized sector, so that initial processing of milk can be taken up at the village level, to upgrade traditional technology to handle milk on a commercial scale, to provide value addition to milk through processing and production of milk products.

##### **Pattern of Assistance**

A back ended capital subsidy of 25% of the project cost to the beneficiaries of general category and 33.33% of the project cost to SC & ST beneficiaries. Entrepreneur contribution (Margin) for loans beyond Rs.1 lakh (Subject to any revision in RBI guidelines) -10% of project

cost (Minimum). Bank Loan - Balance portion.

##### **Activities covered**

Establishment of small dairy unit from 2 to 10 milch animals, Rearing of heifers (upto 20 calves), Vermi-Compost, Purchase of Milking Machines, Milko testers & BMCs (upto 5000 litres capacity), Purchase of Milk Processing equipments for manufacture of indigenous milk products, Transportation & Cold Storage facilities, Establishment of private veterinary clinics, Setting up of Milk Parlour for enhancement of milk production, Procurement, Cold chain and Transportation facilities, Processing and Marketing of milk & milk products.

##### **Outlay of DEDS**

An amount of Rs 325 crore has been allocated at BE stage for year 2019-20.

##### **Eligible Beneficiaries**

An individual entrepreneur, farmer, Group of farmers, Self Help Groups, Dairy Cooperative Societies, District Milk Unions and Panchayati Raj Institutions are eligible under the scheme. An applicant may avail assistance for all components under the scheme but only once for each component. More than one member of a family can be assisted under the scheme provided they set up separate units with

separate infrastructure at different locations. The distance between the boundaries of two such farms should be at least 500 m.

### Achievement under DEDS

Since inception, under DEDS, NABARD as implementing agency has disbursed Rs. 1571.24 crore as back ended capital subsidy (as on 31.03.2019) to 3,69,389 beneficiaries out of which are 96,085 women beneficiaries and 62,483 SC/ST beneficiaries. The State-wise details of the same are given in **Annexure XIII**.

### 4.4.3 National Dairy Plan Phase-I

National Dairy Plan Phase-I (NDP-I) is a scientifically planned multi-state initiative to increase productivity of milch animals and thereby increase milk production to meet the rapidly growing demand for milk through scientific breeding and feeding and to provide rural milk producers with greater access to the organised milk processing sector.

NDP-I is an externally aided project with the total outlay of Rs 2242 crore comprising Rs 1584 crore as International Development Association assistance, Rs 176 crore as Government of India share, Rs 282 crore as share of EIAs for the period 2011-12 to 2018-19.

#### Objectives:

- Increase productivity of milch animals and thereby increase milk production to meet the rapidly growing demand for milk.
- Provide rural milk producers with greater access to the organized milk-processing sector.

#### Coverage

NDP-I is being implemented in 18 major milk producing States, viz. Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Haryana, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand

and West Bengal. These States account for more than 90 % of the country's milk production. However, the benefits from the project are accruing across the country.



#### Funding Pattern

Pattern of funding under the scheme is 100 per cent grant-in-aid for nutrition and breeding activities and in the case of village milk procurement systems, 50 per cent of the cost of capital items is being contributed by the End Implementing Agencies.

#### Outlay of NDP-I

The budget provision of Rs. 324.91 crore during 2018-19 has been released to NDDB. This is the last year of the scheme. However, as per the decision of National Steering Committee the physical activities will continue up to November 2019.

#### Major components funded under the scheme

**Breed Improvement:** Production of High Genetic Merit (HGM) cattle and buffalo bulls, Strengthening of "A" and "B" graded Semen Stations, Pilot Model for Viable Doorstep AI delivery Services

**Animal Nutrition:** Ration Balancing Programme, Ration Balancing Programme,



## Fodder Development Programme

**Village Based Milk Procurement System:**  
Strengthening and Expanding Milk Procurement System at Village level

**Achievements under NDP-I:**

Under NDP I, 561 sub projects of 171 EIAs from 18 States have been approved till March 2019, with a total grant assistance of Rs 1756.83 crore. The approved sub projects include 83 sub projects on Project Management and Learning activities with the total outlay of Rs 99.44 crore.

Till March 2019, Rs 1760 crore has been released by DADF to NDDDB for implementation of NDP-I and against release, Rs 1616.95 crore has been disbursed by NDDDB to EIAs as advance and for expenditure on centralized activities. Total fund utilization till March 2019 has been Rs 1762.18 crore out of which Rs 1440.46 crore is NDP I grant and Rs 321.69 crore is contribution of EIAs implementing VBMPs sub projects. The financial and physical progress under NDP-I is given at **Annexure XIV and Annexure XV**.

**Component wise achievement****a.) Animal Breeding Activities**

Under NDP-I, it is planned to meet the bull replacement requirement of all “A” and “B” graded semen stations by the end of the project period by producing High Genetic Merit (HGM) bulls through Progeny Testing (PT) and Pedigree Selection (PS) programmes and import of exotic purebred bulls or equivalent embryos. It is estimated that the country would need to produce around 100 million high quality disease free semen doses to breed about 35 per cent of breedable animals by the end of NDP I and make available about 2927 HGM bulls for replacement at all “A” and “B” graded semen stations.

The breeds identified for PT include:

Holstein Friesian, Holstein Friesian crossbred, Jersey crossbred, Gir cattle and Murrah and Mehsana buffalo, and the breeds identified for PS include: Rathi, Kankrej, Tharparkar, Sahiwal and Haryana cattle and Nili Ravi, Jaffarabadi and Pandharpuri buffalo. Standard Operating Procedures set on scientific principle have to be strictly followed for these programmes. Adequate bio-security measures also need to be ensured at the village level as well as at the pre-quarantine, quarantine and rearing station level.



Fourteen PT and nine PS programmes have been initiated to produce HGM bulls and 28 numbers of A and B graded semen stations are being strengthened to produce the required high quality, disease free semen doses. Since the launch of the NDP-I in 2012-13 till March, 2019, all the PT and PS projects together, have made available 2360 HGM bulls for distribution (2112 PT and 248 PS) of which 1603 (1432 PT and 171 PS) young HGM bulls have been distributed to different semen stations for the production and supply of high quality disease-free semen doses across the country. During April to March 2019, all the 28 semen stations that are being strengthened under NDP-I, together have produced 88.08 million semen doses for use in the AI programmes.

### b.) Animal Nutrition Activities

Under Ration Balancing Programme, Local Resource Person formulates a least cost balanced ration for milch animals from locally available feed resources using the software “Information Network for Animal Productivity and Health (INAPH)”. Balanced ration to milch animals helps in ensuring that the milch animals produce milk commensurate with their genetic potential. Feeding the balanced ration to milk animals not only reduces the cost of feeding per Kg of milk but also significantly reduces methane emissions. Under this programme, till March 2019, 117 sub projects from 18 States were approved. Under these approved sub projects, till March 2019, advice on balanced ration has been provided for 28.43 Lakh milch animals in 33311 villages.



Fifty-two sub projects on Fodder Development approved under NDP-1 were implemented under various programmes, as per the approved targets. During 2018-19 till March 2019, End Implementing Agencies produced 1384.63 MT fodder seed with cumulative achievements of 12203 MT. 3323 MT fodder seed of improved varieties of different fodder crops were sold during the year and cumulative 29677 MT fodder seed have been sold since 2012-13.

### c.) Village Based Milk Procurement System

Village Based Milk Procurement System

under NDP-1 aims at providing rural milk producers with greater access to organized milk processing sector and improvement of milk quality by forming and strengthening Dairy Cooperative and Producer Companies.

To improve raw milk quality across dairy cooperatives and producer companies, 4153 Bulk Milk Coolers (BMC) have been approved under NDP I. Additionally, 27701 Data Processor Based Milk Collection Unit/ Automated Milk Collection Unit have also been provided under NDP-I.



Till March 2019, 45996 villages have been covered of which 21175 new DCS/ MPP have been formed which include 6172 women DCS/MPP in which 15.70 lakh additional members are enrolled, which include 6.07 lakh women and 10.53 lakh small holders.





d.) Recently, following new projects have also been approved under NDP-I:

- A project for *Developing genomic selection methodology for various cattle breeds in India* has also been approved under NDP I. This project with a total Outlay of Rs. 775 lakh is being implemented by SAG. The project envisages use of INDUSCHIP for genotyping recorded animals of cattle breeds under NDPI.
- Another project for *Developing and validating genotyping microarray chip for buffaloes for genomic selection* has also been approved. This project with a total Outlay of Rs.532.1 lakh is being implemented by ABRO. Under this, work has been initiated for Whole Genome Sequencing of buffaloes and re-sequencing of few animals to identify SNP variants in various buffalo breeds.
- A Study entitled “Estimating the present demand of milk and milk products in India and its forecasting in India” is being conducted by NDDB under NDP-I. The objective of the study is to estimate demand of milk and milk products at the State level in the country. The study also includes projection of India's demand till 2030 based on population, per capita income and elasticity of demand for milk and milk products

#### 4.4.4 Supporting Dairy Cooperatives and Farmer Producer Organizations engaged in dairy activities

Department has approved a new Central Sector Scheme “Supporting Dairy Cooperatives and Farmer Producer Organizations engaged in dairy activities” from 2016-17 with a corpus of Rs. 300 crore to be kept in perpetuity with National Dairy Development Board to be used for providing soft loans for working capital to enable State Dairy Cooperative Federations to provide a stable market access to farmers. The

scheme is being implemented by National Dairy Development Board.

#### Objectives

- To assist the State Dairy Cooperative Federations by providing soft working capital loan to tide over the crisis on account severely adverse market conditions or natural calamities.
- To provide stable market access to the dairy farmers.
- To enable State Cooperative Dairy Federations to continue to make timely payments of dues to the farmers.
- To enable the cooperatives to procure milk at a remunerative price from the farmers, even during the flush season.

#### 4.5. National Action Plan-Dairy Development<sup>9</sup>

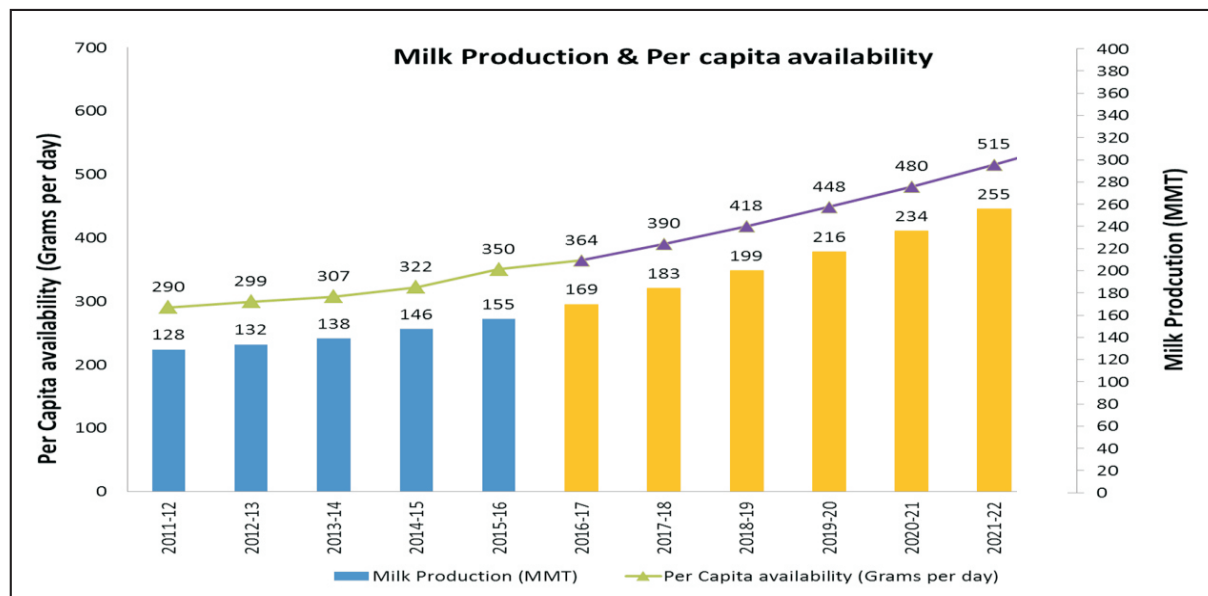
The cooperatives & private dairies procure about 20% of the milk produced in the country while 32% is sold in the unorganised market and about 48% is consumed locally. About 40% of the milk sold is handled by the organised sector and the remaining 60% by the unorganised sector. However, in most of the developed nations, 90% of the surplus milk is processed through organised sector. With the increase in population, rise in per capita income, changing lifestyle, affordable aspirational food habits, export opportunities etc., the demand for milk is expected to rise. It is estimated that the demand for milk would be in the range of 200 - 210 million MT by 2021-22.

The Department of Animal Husbandry, Dairying and Fisheries has formulated a National Action Plan for Dairy Development with following objectives –

- To increase the national milk production from 163.7 MMT in 2016-17 to 254.55 MMT by 2021-22 for meeting the increasing milk demand by domestic milk production and also ensuring nutritional security at household level.

- To double milk producers' income at farm level by 2021-22 by providing rural milk producers with greater access to the organised milk processing sector.

The milk production is envisaged to be 254.5 Million MT by 2021-22 from existing 155.5 Million MT requiring an annual growth rate of 8.56% which would lead to increase in per capita



availability of milk from current level of 337 grams per day to 515 grams per day in 2021-22 addressing the substantial nutritional requirement of growing population. To achieve the desired milk production targets, average In-

milk animal productivity would be required to grow annually at the rate of 4.7% to 6.14 KgPD by 2021-22 from existing 4.65 KgPD. The present status and targets envisaged under the National Action Plan-Dairy Development is as follows:

Parameters	Total (Coop+PC+Pvt)			Coop.+PC		
	2015-16	2021-22	2023-24	2015-16	2021-22	2023-24
Human Population (in millions)	1254.02	1354.26	1389.43	---	---	---
Milk Production (Million MT)	155.5	254.5	300.0	---	---	---
Per Capita Availability (gm/day)	337	515	592	---	---	---
Milk Procurement (LLPD)	890	2896	4260	460	1323	1793.9
Organised (% of milk production)	20.5	41	52	10.5	18	22
Village Coverage (in lakhs)	1.76	3.35	3.58	1.76	2.82	3.29

Farmer Member (in million)	21	32	37	16	32	37
Milk Yield per animal/day (ltr)	4.65	6.14	6.73	4.76	8.67	10.51
Procurement Price (Rs./ltr)	32.19	43.14	47.56	32.19	43.14	47.56
Farmer Income (Rs./month)	516	1306	1697	549	1587	2260

National Action Plan for Dairy Development is targeted to increase organised milk handling from 20% at present to 41% in 2021-22. The milk handling by cooperatives has been targeted to increase from 10% to 20% and private sector from 10% to 30%. Based on the National Action Plan, a Vision Document has been prepared by the Department.

#### 4.6. New Initiatives

##### 4.6.1 Dairy Processing & Infrastructure Development Fund (DIDF)

Consequent to the Union Budget 2017-18 announcement, Dairy Processing & Infrastructure Development Fund has been set up as a corpus of Rs. 8004 crore with National Bank for Agriculture and Rural Development (NABARD) over a period of 3 years (i.e. 2017-18 to 2019-20). The Cabinet Committee of Economic Affairs (CCEA) in its meeting dated 12.09.2017 has approved the scheme. DADF, Government of India (GoI) has issued the administrative approval of the Central Sector Scheme - 'Dairy Processing & Infrastructure Development Fund (DIDF)' on 21 December 2017. DIDF scheme will be implemented with a total investment outlay of Rs. 10,881 crore comprising Rs. 8004 crore as a loan from National Bank for Agriculture and Rural Development (NABARD), Rs. 2001 crore as End Borrower's contribution, Rs. 864 Crore as GoI's Interest Subvention and Rs. 12 crore by National Dairy Development Board (NDDB) and National Cooperative Dairy Corporation (NCDC). NABARD shall disburse Rs. 2004 Cr,

Rs. 3006 Cr and Rs. 2994 Cr during the year 2017-78, 2018-19 and 2019-20 to NDDB/NCDC respectively. Funding will be in the form of interest bearing loan, which will flow from NABARD to NDDB & NCDC and in turn to eligible End Borrowers. Allocation of Rs. 864 Cr for meeting interest subvention will be made over a period of 12 years from 2017-18 to 2028-29.

#### Objectives

The scheme focuses on creation/modernisation/ expansion of processing infrastructure and manufacturing facilities for Value Added Products so as to make operations of milk processing plants more efficient as well as geared on production of higher Value Added Products. The project will also focus on setting up of chilling infrastructure & installation of electronic milk adulteration testing equipment at village level.

#### Implementing Agencies

The project will be implemented by NDDB/ NCDC directly through the End Borrowers such as Milk Unions, State Dairy Federations, Multi-state Milk Cooperatives, Milk Producer Companies and NDDB subsidiaries meeting the eligibility criteria under the project.

#### Salient Features

With this investment, additional milk processing capacity of 126 lakh litre per day, value added products manufacturing capacity of 59.78 lakh litre per day of milk equivalent,

milk drying capacity of 210 MT per day, milk chilling capacity of 140 lakh litre per day, installation of 28,000 Bulk Milk Coolers (BMCs) along with electronic milk adulteration testing equipment shall be created. About 95,00,000 farmers in about 50,000 villages would be benefitted.

Scheme Outlay for 2018-19- DDF had a BE of Rs. 37 crore which has been revised to Rs. 22 crore, out of which Rs. 10 crore has been released as interest subvention to NABARD.

### Implementation Status

Under DDF, as on 31 March, 2019, altogether 22 sub-projects have been approved/sanctioned with total estimated project cost of Rs. 3147.22 crore and with a loan component of Rs. 2157.56 crore. DDF, GoI has released an amount of Rs. 10 crore as interest subvention to NABARD to subsidize the interest component on loans taken from NABARD. The project-wise details are at **Annexure-XVI**.

## 4.7. Achievements made under Dairy Development Sector during last four years

### 4.7.1 Milk Production, Per Capita Availability & Infrastructure

- Milk Production increased from 146.31 MMT in 2014-15 to 176.35 MMT during 2017-18
- The growth rate of milk production has increased by 6.4 % during last three years in comparison to 4% before 2014-15.
- The per capita availability of milk increased from 322 gm/day in 2014-15 to 375 gm/day during 2017-18.
- Average milk procurement by cooperatives increased from 378.34 LKGP in 2014-15 to 475.63 LKGP during 2017-18.
- Major changes during 2010-14 to 2014-18 is as under:

Parameters	Year	Value	Year	Value	% Growth
Increase in milk production (MMT)	2010-14	519.78	2014-18	643.55	23.81
Increase in average milk prices (Rs./ltr)	2010-14	22	2014-18	28.7	30.47
India's milk production rate [Cumulative annual growth rate(CAGR)]	2010-14	4.29	2014-18	6.38	
World milk production rate [Cumulative annual growth rate(CAGR)]	2013	0.64	2018	2.06	
Per capita Availability of milk per day	2013-14	307g	2017-18	375g	22.8

- About 31,810 villages covered under dairy development scheme.
- 10.64 lakh farmer members have enrolled in the cooperative system.
- 1,56,418 farmer entrepreneurs benefited under Dairy

Entrepreneurship Development Scheme.

- Additional 10.25 LLPD and 7.72 LLPD processing and chilling capacity created under dairy development scheme (NPDD).



### 4.7.2 Quality of Milk

Milk is a perishable commodity with a limited shelf life. The bacteria that come into milk after milking multiply at a rapid rate with rise in temperature causing the milk to spoil/curdle. Therefore, seamless cold chain infrastructure and processing facility is necessary to improve the shelf life and quality of milk.

At present, for creation/strengthening infrastructure for producing quality milk, maintaining cold chain, laboratory, processing and marketing of milk and milk products, this Department is implementing following Schemes:

- i. National Programme for Dairy Development (NPDD)
- ii. National Dairy Plan Phase-I (NDP-I)
- iii. Dairy Entrepreneurship Development Scheme (DEDS)
- iv. Dairy Processing and Infrastructure Development Fund (DIDF)

This department has given an in-principal approval of Rs.15.19 lakh to each of 203 District milk Union's dairy plants for strengthening of laboratories on 05.11.2018 under National Programme for Dairy Development (NPDD).

The issue of ensuring availability of safe, wholesome and quality food including milk and milk products for human consumption comes under purview of Food Safety & Standards Act 2006, which is implemented by Food Safety & Standards Authority of India through the Food Safety Commissioners in the States. However, this Department regularly reviews the availability of milk situation in the country with National Dairy Development Board (NDDB) and State Milk Federations. The issue of adulteration of milk is considered in consultation with FSSAI.

This Department had organised a series of meetings with the officers from M/o Health & Family Welfare and Food Safety and Standards Authority of India (FSSAI), to discuss the measures/steps to be taken for effective enforcement of the provisions of Food Safety and Standard Act (FSS Act) 2006. The Department requested FSSAI and all the States to ensure strict enforcement of provisions of FSS Act 2006 to ensure the supply of safe and quality milk and milk products to the consumers, especially children, in the country. States have also been apprised of the decision of the meeting on 21/12/2017 to develop a suitable mechanism at the State level to identify and take strict action against those involved in milk adulteration so as to redress the problem of adulteration in milk & milk products in the interest of both the milk producers and consumers in the country at regular intervals, as recent as 4<sup>th</sup> October 2018.

### 4.7.3 Quality Mark Certification Scheme

National Dairy Development Board (NDDB) Anand has developed an initiative of "Quality Mark" Award Scheme in Jan 2016 for Dairy Cooperatives to promote and encourage enhancement of safety, quality and hygiene of milk and milk products manufactured by dairy cooperatives. It is aimed at bringing about process improvement in the entire value chain from producer to the consumer to ensure availability of safe and quality of milk and products both for the domestic and foreign market. Hon'ble AM has launched the "QUALITY MARK LOGO" on 20.07.2017 developed by NDDB for dairy cooperatives. Since roll out of quality mark initiative by NDDB, on 6th January, 2016, NDDB has received 102 applications for award of the Quality Mark till 31.03.2019. Out of it, 35 Dairy Units have been found eligible for award of Quality Mark logo. The remaining 67 dairies were informed about the areas of improvement.



#### 4.7.4 Milk Adulteration Kit

A kit was developed by the NDDB in the early 90's and is available in three formats – small, medium and large kit. The large kit can detect 9 kinds of wilful adulteration. The kit can be used to conduct 100 tests of each adulterant (900 tests in all). It is a self-contained kit that is convenient to use and easy interpretation of test results. The kit has been in use at the cooperatives for two decades. In total 22477 Kits have been distributed.



#### 4.8 Celebration of National Milk Day 2018

The Department of Animal Husbandry, Dairying and Fisheries organized National Milk Day on 26<sup>th</sup> of November, 2018 at A.P. Shinde Symposium Hall, ICAR NASC Complex, Pusa, New Delhi. Shri Radha Mohan Singh, Hon'ble Union Minister for Agriculture and Farmers Welfare inaugurated the function. More than three hundred participants attended the function, comprising of VIPs, Senior Officials of

Government of India and State Governments, Executives of Co-operative and Private Dairies, Milk Producers and Students of Agricultural Institutions.

#### 4.9 Success Stories

4.9.1 Installation of BMC Capacity 2000 Litres under NPDD (75% GOI and 25% Milk Union) on 11.08.2016- Village Bhambri: Block- Amloh, Tehsil Amloh and District – Fatehgarh Sahib (Pb.) at the Bhambri Milk Producers' Cooperative Society Limited.

Before the installation of BMCs (2000 Litres) & Automatic Milk Collection Units (AMCUs) in August 2016 under NPDD scheme at Bhambri Milk Producers' Cooperative Society Limited Ltd., Fatehgarh Sahib district; the DCS was supplying about 50 liters of Milk daily to Milk Union, Patiala. The number of Milk producers increased from 10 to 40 and consequently increase in Milk Procurement from 50 to 400 liters daily and bacterial quality improved.

4.9.2 Under NDP-I BMC (5000 Litres) &



AMCU was provided to Garika Parru DCS for improvement in milk quality and achieving can free milk collection routes in Krishna Milk Union, Andhra Pradesh. Automatic Milk testing and generation of instant Milk Bills.

Prior to NDP I, Garika Parru DCS and the adjoining villages had traditional means of milk

collection due to which the quality of milk was getting affected and milk producers were not getting proper price for their milk as it used to get spoiled due to lack of cooling and frequent delay of the milk collection vehicle.

Intervention under NDP I: The cluster BMC village Gerika Parru, Mandal, Thotalavalluru started on 01st Oct 2015 as one of the 12 Cluster BMC DCS funded under NDP I. It helped in reducing the time of milk pouring to the DCS and spoilage of milk to avoid losses to the farmers. Besides this has also provided additional employment opportunity to 3-4 villagers. The adjoining villagers also got benefitted as the milk pouring time to the cluster BMC has reduced considerably because they had to go very long distance to pour their milk.

#### 4.10 Delhi Milk Scheme (DMS)

**4.10.1** Delhi Milk Scheme (DMS) was set up in 1959 with the primary objective of supplying wholesome milk to the Citizens of Delhi at reasonable prices as well as for providing remunerative prices to milk producers. The

initial installed capacity of Delhi Milk Scheme was for processing / packing of 2.24 lakh litres of milk per day. However in order to meet increasing demand for milk in the city, the capacity was expanded in phases to the level of 5.00 lakh litres of milk per day. The Department has developed a web site <http://dms.gov.in> for use by related users.

#### 4.10.2 I.S.O 22000-2005 & ISO 14001-2015 Certification.

**4.10.2.1** DMS has been awarded Certificate No. IRQS/18601477 Standard ISO 22000-2005 Certification valid up to 18.06.2021 and ISO 14001 - 2015 certification valid up to 29.03.2022 by M/s IRQS Mumbai.

#### 4.10.3 Procurement of Milk

**4.10.3.1** Delhi Milk Scheme has been procuring raw / fresh milk from the State Dairy Federations of the neighboring States of Punjab, Haryana, and Uttar Pradesh. Rajasthan, Madhya Pradesh and Bihar and from the Co-operative Societies/ Producers Companies & other companies.

**4.10.3.2** The total quantity of milk procured by DMS since 2015-16 is indicated below:

**Table 4.1: Milk Procured by DMS**

(in Lakh Kgs)

Year	Total Qty. of milk procured.	Average/per day
2015-16	887.75	2.43
2016-17	766.13	2.10
2017-18	805.08	2.21
2018-19	607.86	1.67

**4.10.3.3** During the current financial year 2018-19 (up to March, 2019), DMS procured 1.67 lakh Kg. milk per day as compared to the last year, 2017-18 due to floods in their region/States.

DMS has been authorized to decide milk procurement rates at its own level and it is delinked with Mother Dairy, Delhi.



#### 4.10.4 Production and Distribution of Milk

4.10.4.1 Delhi Milk Scheme is processing and supplying milk (Toned, Double Toned and Full Cream). DMS is also manufacturing & marketing Dahi, Ghee, Butter, Paneer, Chhachh and Flavored Milk for supply to the citizens of Delhi.

4.10.4.2. DMS has a network of over 1061 (including All Day Milk Stalls). The DMS also supplies milk to about 139 institutions such as Hospitals, Parliament House, Annexes, Government Canteens, Hostels and Defense Units etc. In addition, DMS also supplies milk to the consumers through milk distributors.

Government Canteens, Hostels and Defense Units etc. In addition, DMS also supplies milk to the consumers through milk distributors.

4.10.4.3. The milk booths are allotted to and manned by Ex-servicemen/retired Govt. servants, physically handicapped, widows, unemployed persons.

#### 4.10.5 Performance/capacity Utilization

4.10.5.1 The sale of DMS and custom packing of Sudha (COMFED, BIHAR) milk by DMS taken together has reached 2.24 lakh litres per day (LLPD) during the financial year 2018-19. The capacity utilization in term of sale of milk since 2015-16 is given in the table below:

**Table 4.2: Performance of DMS**

Year	Total quantity of sale of milk (In lakh litres)	Average sale of milk (LLPD)*	%age of average sale of milk with reference to installed capacity of 5 LLPD.*
2015-16	1080.06	2.96	59.2%
2016-17	1035.24	2.84	56.8%
2017-18	954.21	2.61	52.2%
2018-19	818.27	2.24	44.8%

**Note:** 1. \*LLPD (Lakh Litre Per Day)

2. Capacity utilization is limited according to volume of sale of milk.

#### 4.10.6. Financial Outlay

4.10.6.1. Expenditure on all head of accounts including the expenditure on inputs like raw milk, SMP, Butter, Butter Oil etc. and capital items is made from consolidated fund of Government of India through annual budget allocation of Ministry of Agriculture,

Department of Animal Husbandry & Dairying. Sale proceeds of milk and milk products are credited to the revenue account of the Government.

4.10.6.2. The funds provided/proposed and expenditure for the year 2017-18 (R.E.) and B.E. 2018-19 are given in table 4.3 below:

**Table 4.3: Expenditure of DMS**

(Rupees in Crores)

Head/Scheme	2017-18 (R.E.)		2018-19		
	R.E. (Approved)	Expenditure	B.E. (Approved)	R.E. (Proposed)	Expenditure (upto March, 19)
1	2	3	4	5	6
I. NON-PLAN	419.00	392.08	442.00	360.27	323.33
II. PLAN (including civil & electrical works)	0	0	13.00	0.00 *	0.00

**Note:** \* The funds of Rs. 13.00 crore was provided in B.E.2018-19 (Plan) and the same was shown in the Annual Report Oct,2018, has since been surrendered at the stage R.E. 2018-19) despite of fact that no such demand was raised by DMS under this head.



**4.10.6.3** During the current financial year 2018-19 (up to March, 2019) DMS generated a surplus of Rs. 34.81 crore on cash basis.

#### **4.10.7. REDUCTION IN THE STAFF STRENGTH OF DMS**

**4.10.7.1.** In pursuance of instructions issued by Ministry of Finance to down size Government machinery and to reduce the administrative expenses, the DMS decided to reduce its working strength by not making fresh recruitment. The total staff strength of DMS has come down from 597 as on 01.4.2018 to 560 as on 31.03.2019.

#### **4.10.8 UPGRADEATION AND MODERNIZATION OF DMS PLANT**

**4.10.8.1** The DMS plant which was installed at the time of its commissioning has become old and required upgradation. The installed capacity of the plant is for processing 5.00 lakh litres of milk per day for one type of Milk. Presently, the DMS is processing approx. 2.50 lakh litres of milk per day.

**4.10.8.2.** As the plant is old, it may not be possible to process the milk at the level of its installed capacity without its entire upgradation/automation. During the financial year 2018-19, installed and commissioning of VFD 40HP with SS Panel for butter Churn and VFD 30 HP for MRPX.

**4.10.8.3(a)** With optimum utilization of available resources and installed capacitor banks in Central Dairy, DMS could achieve a power factor greater than 0.98 which help in savings of electrical consumption.

(b) With optimum utilization of water and it's recycling the consumption of water has been brought down substantially in Central Dairy which help in savings of water consumption.

**4.10.8.4** The present capacity utilization of DMS is about 45%. Efforts are being made to utilize its capacity by increasing the sale of milk and milk products leading to reduction in losses. DMS is initiating sales of milk by engaging distributors in the new areas of NCT of Delhi.

#### **Source (Meaning of the superscript)**

1. Basic Animal Husbandry & Fisheries Statistics 2018
2. Food Outlook, November 2018
3. Annual report 2017-18, Department of Agriculture Cooperation and Farmers Welfare
4. National Accounts Statistics 2017
5. Agriculture Census 2015-16
6. Basic Animal Husbandry & Fisheries Statistics 2018
7. NSS report No.576: Income, Expenditure, Productive Assets and Indebtedness of Agriculture Households in India, 2012-13
8. Annual Report 2017-18, National Dairy Development Board
9. Vision 2022-National Action Plan for Dairy Development

# **CHAPTER 5**

## **OVERVIEW OF INDIAN FISHERIES**



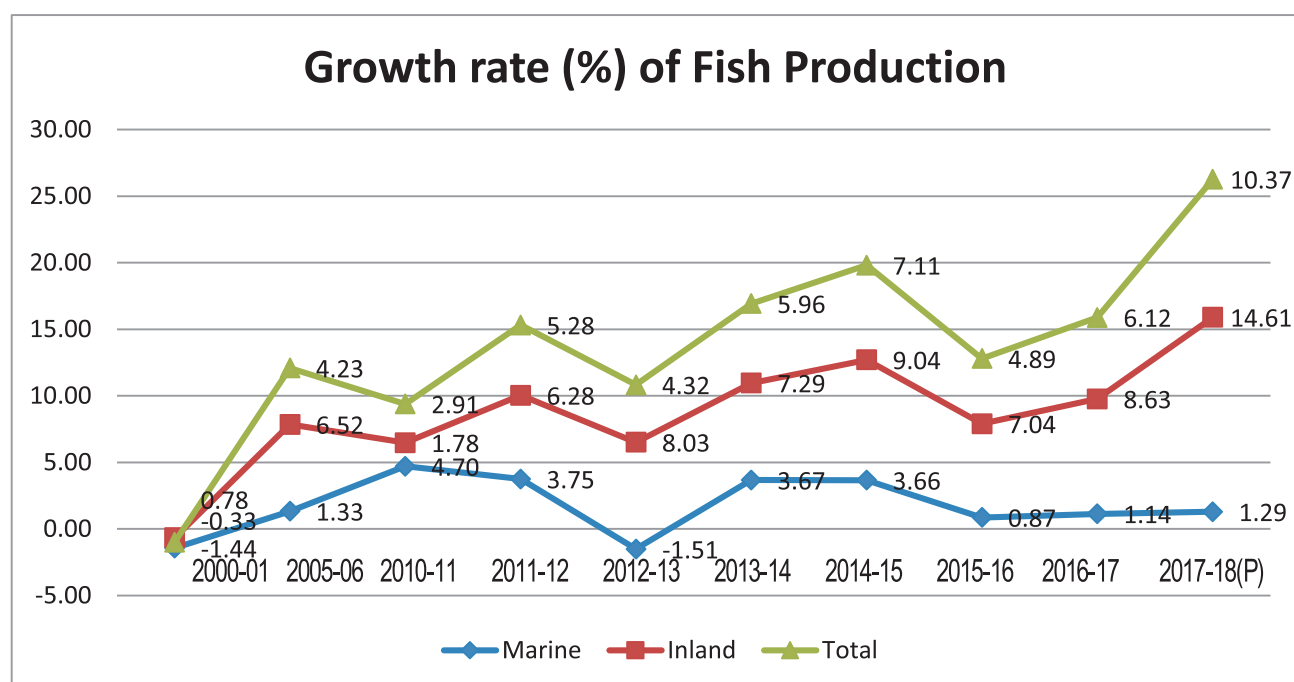
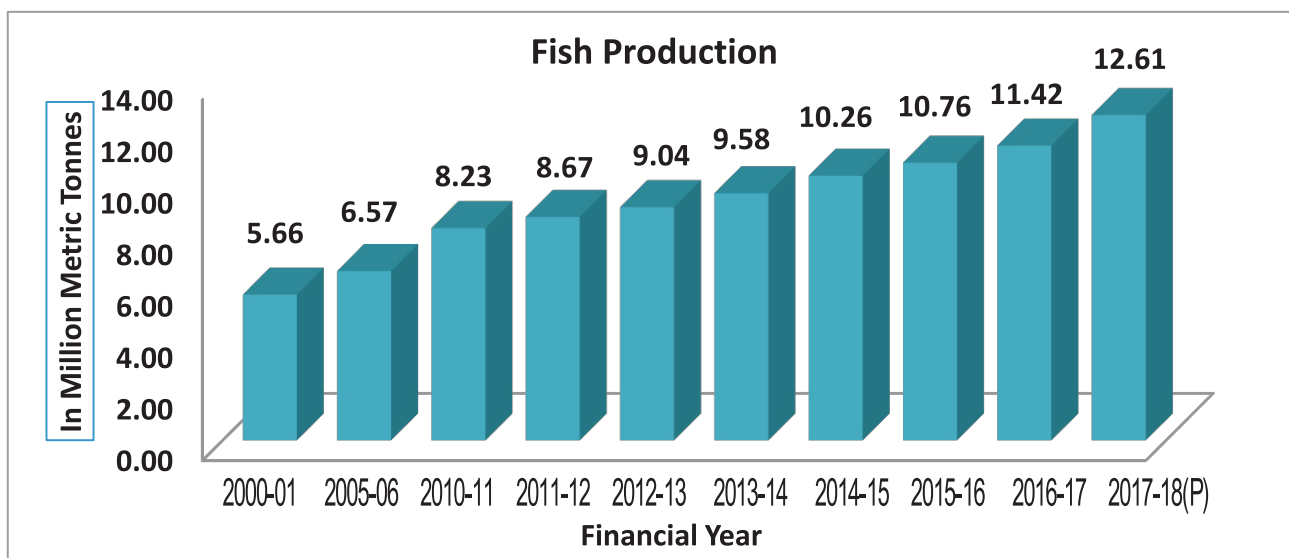
## OVERVIEW OF INDIAN FISHERIES

### 5.1 Introduction

**5.1.1** Presently India is the second largest fish producing and second largest aquaculture nation in the world after China. The total fish production during 2017-18 (provisional) is registered at 12.61 million metric tonnes (MMT) with a contribution of 8.92 MMT from inland sector and 3.69 MMT from marine sector. Fish

production during upto 3rd quarters of 2018-19 has also shown an increasing trend and is estimated at 3.62 Million Metric Tonnes (Provisional).

**5.1.2** The fish production has increased from 5.66 MMT in 2000-01 to 12.61 MMT in 2017-18 (P). The growth in fish production has shown a cyclic pattern with an increasing long term trend.

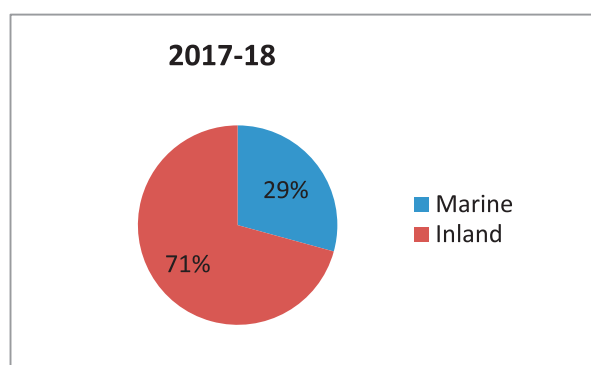
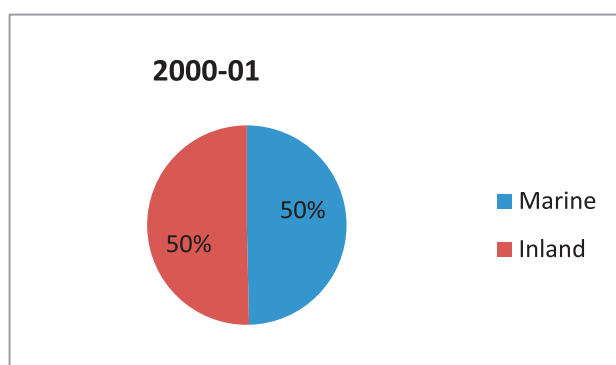




**5.1.3** Fisheries is a sunrise sector with varied resources and potential, engaging over 14.50 million people at the primary level and many more along the value chain. Transformation of the fisheries sector from traditional to commercial scale has led to an increase in fish production from 0.75 Million Metric tonnes in 1950-51 to 12.61 Million Metric tonnes (Provisional) during 2017-18, while the export earnings from the sector registered at Rs. 45,106.89 crore (US \$ 7.08 billion) in 2017-18 with the Quantity of 1377244 tonnes. The sector

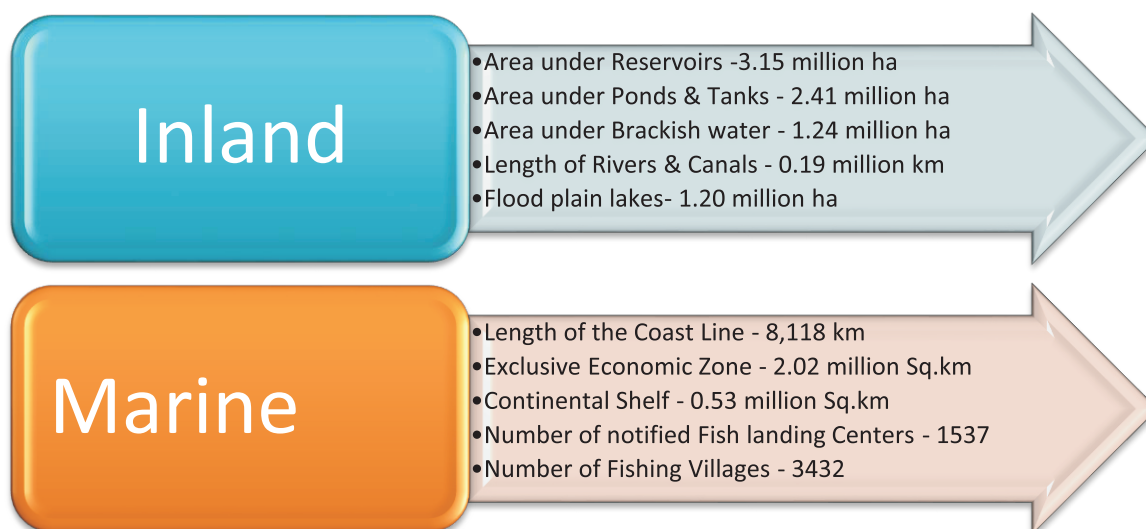
contributed about 0.96% to the National Gross Value Added (GVA) and 5.37% to the agricultural GVA (2016-17).

**5.1.4** The historical scenario of Indian fisheries reveals a paradigm shift from marine dominated fisheries to a scenario where inland fisheries have emerged as a major contributor to the overall fish production in the country. As seen in the following chart, inland fisheries presently has a share of 71% in total fish production of the country.



**5.1.5** Within inland fisheries there is a shift from capture fisheries to aquaculture during the last two and a half decade. Freshwater aquaculture with a share of 34 percent in inland fisheries in –mid 1980 has increased to about 80 percent in recent years. So far, about 0.89 million

ha of water area have been brought under fish farming covering 1.1 million beneficiaries. Currently the average annual yield is around 3.0 tonnes/ha. At the same time training has been imparted to about 0.94 million fishers on various aspects of fish and fisheries.



**5.1.6** The marine resources of the country comprise an Exclusive Economic Zone (EEZ) of 2.02 million sq. km, a continental shelf area of 5,30,000 sq. km and a coastline of 8,118 km. The marine fishery potential in the Indian waters have been estimated at 5.31 MMT constituting about 43.3% demersal, 49.5% pelagic and 4.3% oceanic groups.

**5.1.7** Mariculture in the country over the years was confined largely to bivalve molluscs viz., mussels, edible oysters and pearl oysters, and to some extent seaweeds. With a thrust on development of technologies pertaining to sea cage farming during last decade, developmental plans with both forward and back ward linkages are envisaged to allow these activities to become significant contributors to production of seafood in the country.

**5.1.8** **Although, inland fisheries** have grown in absolute terms, the rate of growth in terms of its potential is not yet achieved. The vast inland resources comprise 0.19 million km of rivers and canals, 1.2 million ha floodplain lakes, 2.41 million ha of ponds and tanks and 3.15 million ha of reservoirs.

**5.1.9** The manmade reservoir resources cover more than 3.0 million ha water spread area and are mostly distributed in varied climatic environment congenial for fish growth. The average fish production potential was estimated at 250 kg/ha for reservoirs and about 350 kg/ha for wetlands. While reservoirs fisheries and freshwater aquaculture would be the two main pillars of growth, other resources such as upland water bodies, floodplain lakes and wetlands, irrigation canals, saline and waterlogged areas also need to be gradually mainstreamed to start contributing to the production. Another major activity in aquaculture sector is the cage/ pen culture in open waters, which has picked up very well in recent years. It offers vast potential for inland aquaculture in the country. The

production potential from sustainable cage culture for table fish production is about 50 kg/m<sup>3</sup> with enormous possibility for further expansion and intensification.

**5.1.10** The freshwater fish farming is lacking in quality inputs in terms of seed, feed, health management and marketing support. Programs aimed at production and distribution of quality seed and feed for aquaculture and also culture-based-capture fisheries; husbandry of farmed species and availability of quality water are essential to optimize production and productivity from inland fisheries and aquaculture in the country.

**5.1.11** The cold water resources are distributed mainly in the form of upland streams, rivers, lakes and reservoirs that are located at medium to high altitudes of Himalayan corridor such as Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, West Bengal and all North-Eastern States. At present, the total fish production from upland areas constitute about 3 % of inland fish production of India which is a very small share to the overall production. Commercial farming of high value cold water species like exotic rainbow trout has been taken up successfully and estimable progress has been made.

**5.1.12** Brackish water estuaries or river mouth is another set of water bodies having the peculiarity of fluctuating salinity due to tidal effects which have huge potential for both fin fish and shell fish culture. Valuable fish like sea bass, pearl spot and shrimp could be cultured in large quantities. India has 1.24 million ha of brackish water area spread over all maritime States / Union Territories (UTs), but hardly 15 % of brackish water areas are developed for commercial farming. Shrimps, oysters, mussels, crabs, lobsters, sea bass, groupers, mullets, milk fish, cobia, silver pompano, pearl spot, ornamental fishes and sea weeds are being

farmed to some extent. The Coastal Aquaculture Authority (CAA) is regulating these activities in saline and brackish water systems within 2 kms from the High Tide Line for sustainable development of coastal aquaculture sector.

**5.1.13** In case of shrimp (*L. vannamei*) quality seed resources are an essential element of production. Hatchery and seed production techniques have so far been standardized for few commercial shrimps, crabs and fin fishes. Demonstration of feasibility of inland saline aquaculture in the state of Haryana and Punjab

has opened up scope for bringing these resources under economic use which hitherto remained unfit for any other agricultural activity.

**5.1.14** Ornamental fish farming, although a non-food activity also has a promising future and is likely to contribute to the overall growth of fisheries sector in the coming years in terms of foreign exchange earnings and additional livelihood opportunities both in the urban and rural areas.

- **The Exclusive Economic Zone (EEZ) of India is 2.02 million sq.km, comprising 0.86 million sq.km on the west coast, 0.56 million sq.km on the east coast and 0.60 million sq.km around the Andaman & Nicobar Islands.**
- **Off late, culture of *Pangassius* and mono-sex *Tilapia*, native catfishes and freshwater prawns are picking up due to culture based production at a faster pace**
- **The three Indian Major Carp (IMC) species – Catla, Rohu and Mrigal together contribute a lion's share**
- **Exotic carps form the next important group in the IMC segment**
- **In the shrimp segment, most of the production comes from *L. vannamei*.**
- **Rainbow trout culture and rehabilitation of native Mahaseer in cold waters of the Himalayan corridor are promising ventures**

## **5.1 Thrust areas**

**5.2.1** In order to enhance fish production, there is a need for diversification of fish production in other areas like integrated fish farming, cold water fisheries, riverine fisheries, capture fisheries, brackish water fisheries etc. The recent measures therefore have targeted Intensive Aquaculture in ponds and tanks through integrated fish farming, carp polyculture, freshwater prawn culture, running water fish culture and development of riverine fisheries.

**5.2.2** Expansion of area under aquaculture has to become an important option to boost fish production. In this context, derelict water bodies could be immensely useful and could be an important resource to boost fish production for meeting the future fish demands of the country. There are about 1.2 million hectares of beels and other derelict water bodies in the country. Bringing these water bodies into the ambit of fisheries will boost fish production tremendously and hence expansion of fisheries

in these water bodies is one of the focus areas of the department for increasing fish production.

**5.2.3** Reservoirs, which are largely untapped in India, have great potential for development of fisheries. Reservoir Fisheries Development is therefore a thrust area of the department. By promoting technologies like cage culture and seed stocking in reservoirs, the productivity of the reservoirs can be enhanced manifold.

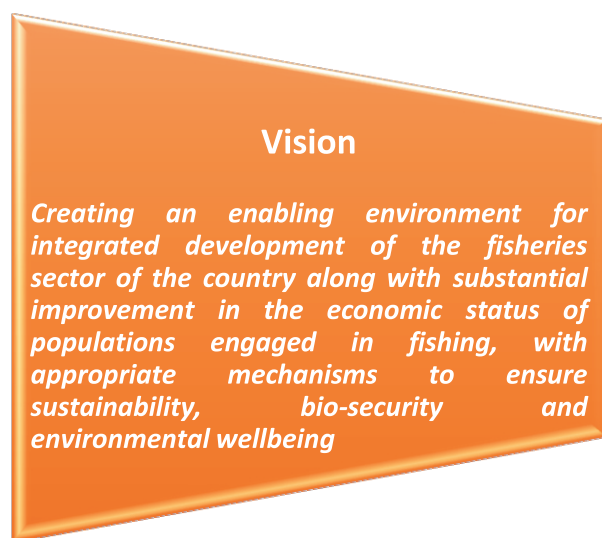
**5.2.4** The Government recognizes the need for availability of quality seed and feed for sustained growth in inland fish production in the long run. As per an estimate, the total fish seed required for optimal stocking in the existing ponds, new ponds and reservoirs is about 60,000 million fry. As against this, the seed production in 2017-18 was about 39,261.31 million fry. Thus there is a gap of about 20,738.69

million fry. Setting up of brood banks and hatcheries across the country, is therefore a priority area for the department.

**5.2.5** Responsible aquaculture and prevention and management of aquatic diseases, organic farming, and induced breeding are some of the other challenges to be addressed in this sector for improving productivity.

### 5.3 New Initiatives: Blue Revolution

**5.3.1** Foreseeing high potential, the Hon'ble Prime Minister has called for "a revolution" in the fisheries sector and has named it as "Blue Revolution". The Blue Revolution, with its multi-dimensional activities, focuses mainly on increasing fisheries production and productivity from aquaculture and fisheries resources, both inland and marine.



#### 5.3.2 OBJECTIVES

- To increase the overall fish production in a responsible and sustainable manner for economic prosperity
- To modernize the fisheries with special focus on new technologies
- To ensure food and nutritional security
- To generate employment and export earnings
- To ensure inclusive development and empower fishers and aquaculture farmers



### 5.3.3 CENTRALLY SPONSORED SCHEME WITH CENTRAL SECTOR COMPONENTS

The Ministry of Agriculture and Farmers Welfare, Department of Animal Husbandry, Dairying & Fisheries has accordingly restructured the scheme by merging all the ongoing schemes under an umbrella of Blue Revolution. The restructured scheme provides focused development and management of fisheries, covering inland fisheries, aquaculture, marine fisheries including deep sea fishing, mariculture and all activities undertaken by the National Fisheries Development Board (NFDB).

The restructured Centrally Sponsored Scheme on *Blue Revolution: Integrated Development and Management of Fisheries* formulated at a total Central outlay of ₹3000 crore for five years has the following components:

- (a) National Fisheries Development Board (NFDB) and its activities,
- (b) Development of Inland Fisheries and Aquaculture,
- (c) Development of Marine Fisheries, Infrastructure and Post-Harvest Operations,
- (d) Strengthening of Database & Geographical Information System of the Fisheries Sector,
- (e) Institutional Arrangement for Fisheries Sector and
- (f) Monitoring, Control and Surveillance (MCS) and other need-based Interventions.
- (g) National Scheme of Welfare of Fishers

The Cabinet Committee on Economic Affairs (CCEA) in its meeting held on **22nd December, 2015** considered and approved the

forementioned proposal of the DADF of the Ministry of Agriculture and Farmers Welfare.

### 5.3.4 FUNDING PATTERNS

The subsidy sharing pattern especially beneficiary oriented components of the Inland and Marine Fisheries under the Centrally Sponsored Scheme on 'Blue Revolution: Integrated Development and Management of Fisheries' are as under:

- (i) For any proposal, the total admissible Government subsidy (Central+State) will be limited to 40% of the project cost for general category beneficiaries and 60% of the project cost for weaker sections like Scheduled Castes (SCs), Scheduled Tribes (STs), women and their co-operatives.
- (ii) Of the admissible subsidy, the central and state share shall be as follows:
  - a) North East & Hilly States : 90% Central Share and 10% State Share
  - b) Union Territories : 100% Central Share
  - c) Other States : 60% Central Share and 40% State Share

Regarding National Scheme of Welfare of Fishermen the assistance are shared in the ratio of 50:50 for General States, 80:20 for North Eastern States and Hilly States while 100% for UTs for saving-cum-relief and Group Accident Insurance Scheme except housing for fishermen where funding pattern is 60:40 for General States and 90:10 for Hilly and NE States while 100% for UTs as per PMAY Guidelines.

The components of the scheme namely (a) Strengthening of Database & Geographical Information System of the Fisheries Sector, (b) Institutional Arrangement for the Fisheries Sector and (c) Monitoring, Control and

Surveillance (MCS) and other need-based Interventions are implemented with 100% central funding.

### 5.3.5 Scheme Components

#### 5.3.5.1 Development of Inland Fisheries and Aquaculture

This component mainly focuses on increasing of fish production and productivity from the existing aquaculture farms and water bodies besides aquaculture area expansion and species diversification.

The activities covered under this component are;

- i. Construction of new ponds
- ii. Renovation of existing ponds
  - a. Renovation of Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA) ponds
  - b. Rejuvenation of urban/semi urban / rural lakes tanks for culture
- iii. Input cost for freshwater fish culture and brackish water fish/shrimp culture
- iv. Establishment of fish seed hatcheries
- v. Establishment of freshwater/brackish water prawn hatcheries
- vi. Solar power support system for aquaculture
- vii. Cold water fisheries and aquaculture
  - a. Construction of permanent farming units and raceways
  - b. Running cold water fish culture in earthen units
- viii. Development of water logged areas
  - a. Development of waterlogged areas
  - b. Input cost
- ix. Productive utilization of Inland Saline/ Alkaline waters for aquaculture
  - a. Construction of new ponds
  - b. Input cost
- x. Inland capture fisheries (village ponds & tanks)

- a. Fish seed rearing units
- b. Input cost
- c. Craft and gears
- d. Construction of landing centers
- e. Riverine Fisheries Conservation
- xi. Integrated development of reservoirs
  - a. Need based activities from a broader perspective to make self-resilient unit
- xii. Establishment of feed mills.
- xiii. Installation of cages/pens in reservoirs and other open water bodies.
- xiv. Re-circulatory Aquaculture System (Low cost)
- xv. Stocking of fingerlings in Beels/Wetlands
- xvi. Creation of portal for advisory services to farmers on mobile and internet
- xvii. Training and skill development of fish farmers and other stakeholders

#### 5.3.5.2 Development of Marine Fisheries, Infrastructure and Post-Harvest Operations

This component focuses on continuing harnessing of near shore fisheries resources on a sustainable and environmental friendly manner and up-gradation of technology to harness the untapped deep sea and oceanic fishery resources. It also includes capacity building and training in marine fishing and allied activities and encouragement of mari-culture in open seas and creation of essential fisheries infrastructure facilities.

The activities covered under this component are:

- i. Motorization of traditional craft.
- ii. Safety of fishermen at sea.
- iii. Assistance to traditional fishermen for artisanal boats and ice boxes.
- iv. Rebate on High Speed Diesel (HSD) for fishers of BPL category.
- v. Establishment and operation of Vessel Monitoring Systems (VSM).

- vi. Promotion of non-conventional methods for environment friendly fishing practices.
- vii. Promotion of mariculture in the form of sea cages, sea weed cultivation, bi-valve cultivation and pearl culture.
- viii. Management of Marine Fisheries
- ix. Establishment of fishing harbours and fish landing centers
- x. Assistance for dredging of fishing harbors/fish landing centers.
- xi. Development of post-harvest infrastructure; Ice plants, cold Storages and ice plants cum cold storages.
- xii. Renovation/modernization of ice plants, cold storages and ice plants cum cold storages.
- xiii. Development of retail fish markets and allied infrastructure.
- xiv. Setting up of mobile/retail fish out lets.
- xv. Assistance for fish transport infrastructure like
  - a. Refrigerated trucks /container of a minimum 10 MT capacity.
  - b. Insulated trucks of minimum 10 MT & 6 MT capacities.
  - c. Auto rickshaw, motor cycle & bicycle with ice box.
- xvi. Innovative activities related to fisheries and the industry.
- xvii. Assistance for Deep sea fishing for traditional fisherman.

#### **5.3.5.3 National Scheme on Welfare of Fishermen**

This component focuses some of the critical and essential welfare activities for fishers. The activities covered in this component are;

- i. Saving cum relief for the fishermen.
- ii. Provision of Housing for the fishermen.
- iii. Other basic amenities like drinking water facility.

- iv. Construction of community hall with sanitation, water supply and electrification facility.
- v. Group accident Insurance for active fisherman in convergence with PMSBY.
- vi. Grant in aid to the National Federation of Fishers Cooperatives Ltd. (FISHCOPFED).

#### **5.3.5.4 Strengthening of Database & Geographical Information System of the Fisheries Sector**

This component mainly focuses on creation of authenticated and reliable fisheries database that are essential for formulation of policies, programmes/schemes etc.

The activities covered under this component are:

- (i) Assistance to the State Governments/UTs for collection and supply of fisheries data regularly on a quarterly basis,
- (ii) Development of suitable IT based system for collection, analysis and compilation of fisheries data,
- (iii) Development of geographical information system,
- (iv) Mapping of water-bodies to assess the fisheries resources potentials & their sustainable harnessing,
- (v) Compilation/publication and dissemination of fisheries data-based to the needy Organizations/Departments/Ministries etc.

#### **5.3.5.5 Monitoring, Control and Surveillance (MCS) and other need-based Interventions.**

This component intends to create a Monitoring Control and Surveillance (MCS) Regime for marine fisheries towards compliance of various national and international obligations.

The activities covered under this component are;

- (i) Continuing issuing the biometric ID card to marine fishers,
- (ii) Continue to implement the fishing vessels registration project (ReALCraft),

- (iii) Up-gradation of the existing 166 registration centers into Fisheries Monitoring, Control and Surveillance Centers (FMCS) etc.

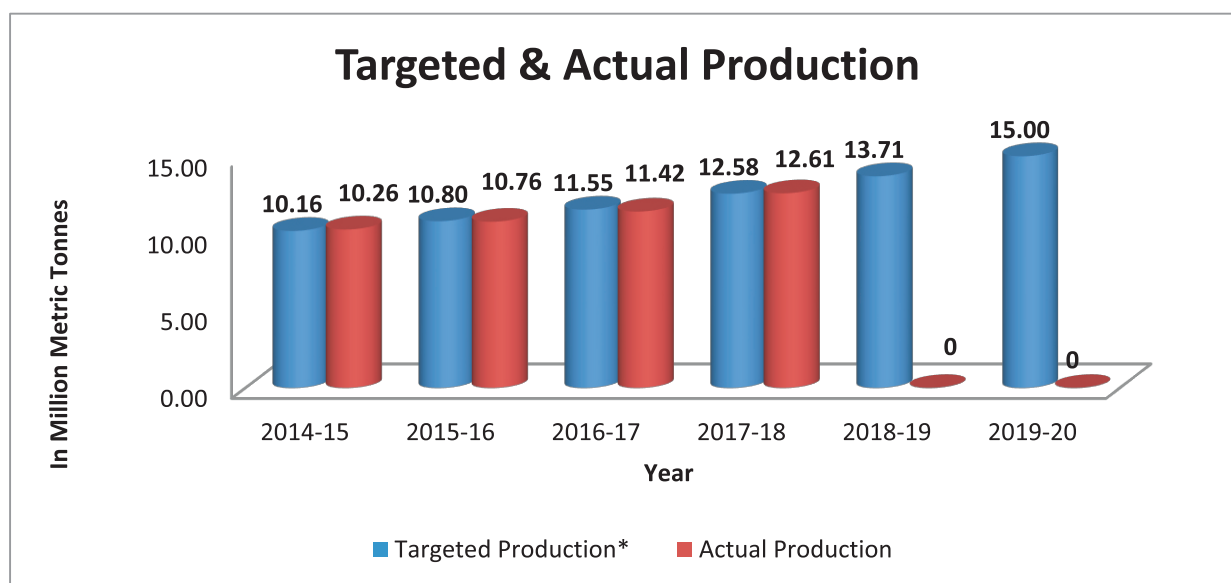
#### 5.3.5.6 National Fisheries Development Board (NFDB)

**5.3.5.6.1** National Fisheries Development Board (NFDB) was established in 2006, with its headquarters at Hyderabad to realize the untapped potential of fisheries sector in inland and marine fish capture, culture, processing & marketing of fish, and overall growth of fisheries sector with the application of modern tools of research & development including biotechnology for optimizing production and productivity from fisheries. The activities of the Board are focused towards increasing the fish

production and productivity in the country, to enhance the exports of fish and fishery products and to provide employment by extending assistance to various agencies for implementation of activities.

#### 5.4 Major Deliverables and Achievements

The Blue Revolution targeted a growth rate of about 8% annually on a sustainable basis over a period of five years, since its launching. This could be possible if production is targeted at 15 million tonnes by end of 2019-20 (as against production of 12.61 million metric tonnes at the end of 2017-18). The projected fish production on account of implementation of the Blue Revolution scheme is presented as below:



**5.4.1** Year-wise allocation and utilization of funds under the central sector scheme for development of fisheries in the country is as below:

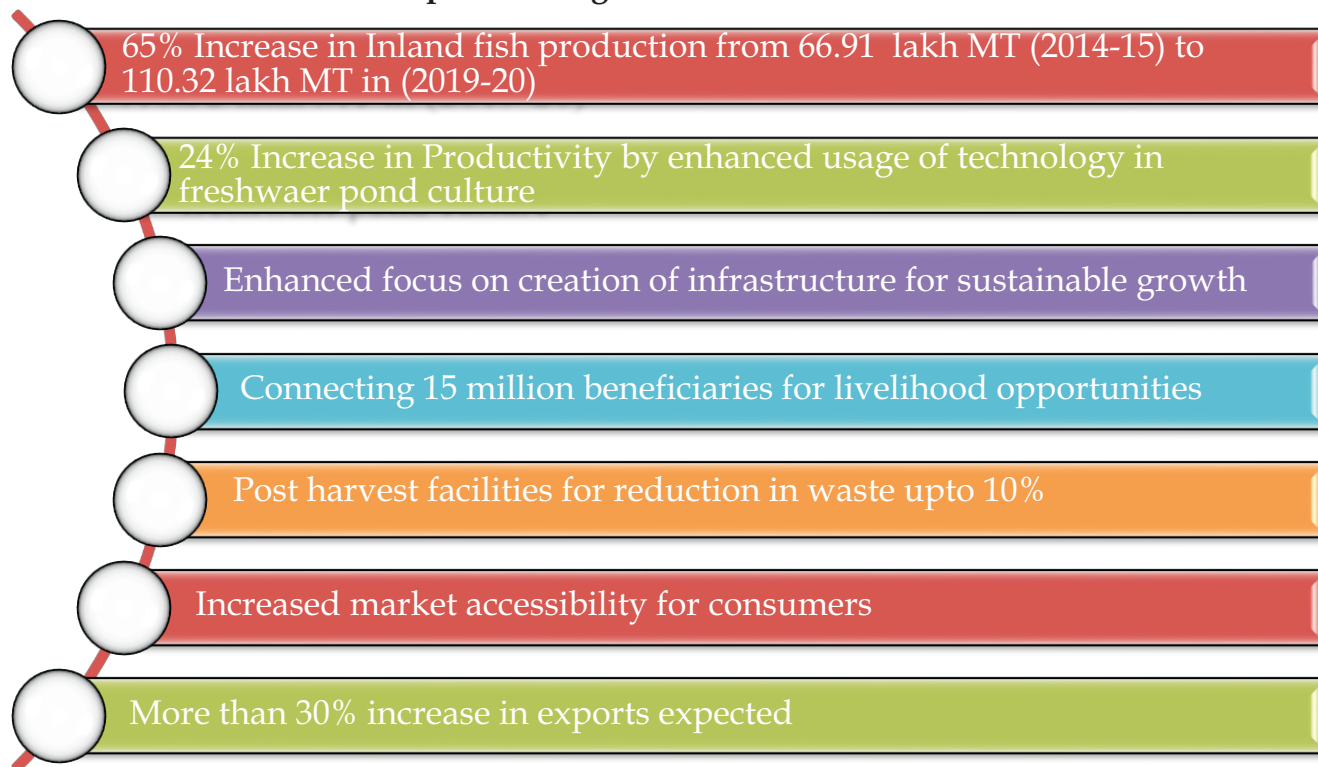
(Rs. in crore)

Year	BE	RE	Expenditure
2014-15	480.96	351.56	353.36
2015-16	476.95	455.86	416.81
2016-17	450.00	424.25	424.11
2017-18	549.13	437.99	420.77
<b>2018-19</b>	<b>732.45</b>	<b>679.14</b>	<b>675.52</b>



### 5.4.2 Integrated National Fisheries Action Plan-2020

#### Envisioned Impact of Integrated National Fisheries Action Plan



**5.4.2.1** The Department has prepared a detailed Integrated National Fisheries Action Plan-2016 (NFAP) for achieving 15.00 million tonnes overall fish production by 2019-20. It aims at enhancing fish production and productivity and to achieve the concept of Blue Revolution. The approach was initiated considering the various fisheries resources available in the country like ponds & tanks, wetlands, brackish water, cold water, lakes & reservoirs, rivers and canals and the marine sector. All States and UTs have been asked to prepare State Action Plan for 5 years in line with NFAP for achieving Blue Revolution in their States/UTs. The Blue Revolution aims at production and distribution of quality seed and feed for aquaculture and also culture-based-capture fisheries; husbandry of farmed species and availability of quality water are essential to optimize production and productivity from inland fisheries and aquaculture in the country.

**5.4.2.2** Though inland fisheries sub-sector is posting a steady growth the accessible resources are still untapped. Moreover, the present fish productivity (2.9 MT/ha) of freshwater aquaculture is far below the potential leaving ample scope for vertical as well as horizontal enhancement.

**5.4.2.3** In marine sector, sustainability and optimum utilisation of the existing potential is important to ensure fishers' welfare. The small-scale fishery needs protection through empowering the fishers with better crafts and gears. Deep sea fishing is another area, to be explored to harvest the resources.

**5.4.2.4** One of the most significant characteristics of Indian fisheries sector is its small-scale nature. Besides being a source of protein rich nutritious food, income and livelihood to poor fishers, the

fisheries sector is important for engaging the rural population in a number of ancillary activities i.e. processing, value addition, marketing, retailing, transportation etc.

**5.4.2.5 Recognizing the potential and possibilities,** Government of India has envisaged a program to unlock the country's fisheries sector through an integrated approach at a scale necessary to make a difference. The Blue Revolution, in its scope and reach, focuses mainly on creating an enabling environment for an integrated and holistic development and management of fisheries for the socio-economic development of fishers and fish farmers, keeping in view the sustainability, bio-security and environmental concerns. Thrust areas have been identified for enhancing fisheries production and productivity from aquaculture and fisheries resources, both inland and marine, during the ensuing years through the active participation of all stakeholders.

### 5.4.3 Strategies: To unlock prospects

The programs and strategies for fisheries and aquaculture development in the country under the Blue Revolution has been developed keeping in view the objectives identified for the sector. Greater emphasis fisheries is on infrastructure with an equally strong focus on management and conservation of the resources.

#### 5.4.3.1 Integrated approach for inland fisheries development

Integration of various production oriented activities such as: (i) Production of quality fish seeds, (ii) Cost effective feed, (iii) Availability of feasible technology, (iv) Post harvest facilities and processing (v) Marketing facilities in close vicinity where commercial aquaculture is undertaken would enhance fish production. Cluster approach by forming groups among entrepreneurs and progressive fish farmers will

be encouraged to adopt Good Aquaculture Practice (GAP) in hatcheries and farming.

- (i) **Pond aquaculture:** The smaller water bodies in the form of ponds and tanks with a water spread area of up to 5 ha are aimed for semi-intensive to intensive freshwater aquaculture.
- (ii) **Culture based fisheries in wetlands and reservoirs:** Supplementary stocking of fingerlings of carps and other relevant species, scientific fisheries management practices; developing adequate rearing space for ex-situ fingerling production, in-situ seed production in floating cages and pens.
- (iii) **Fish seed production:** Quality fish seed is a prime requirement for developing aquaculture and culture-based fisheries. A National Freshwater Fish Brood Bank is established by National Fisheries Development Board (NFDB) for production of good quality brooders of known varieties with the assistance of Central Institute for Freshwater Aquaculture (CIFA) & National Bureau of Fish Genetic Resources (NBFGR). Other issues to be considered for strengthening seed production sector are: Establishment of brood banks in each state and upgradation of hatcheries for maintaining and holding the brood stock as well as seed. In-situ/ex-situ production of seed for stocking in reservoirs and other open waters. Technology transfer for breeding of commercially important fishes, especially those species holding market value including Mariculture is also to be addressed.

- (iv) Promotion of feed based aquaculture : Development of fish feed mills and scaling up of production from the existing feed mills is envisaged besides popularization of extruded feed based aquaculture to achieve better productivity.
- (v) Diversification of culture species: Freshwater aquaculture in India is carp-centric hence introduction of exotic and other diversified species that can contribute to increase in fish production, without any adverse impact on the native species and the ecosystem shall be promoted.
- (vi) Additional infrastructure for SPF shrimp seed: Shrimp Brood Multiplication Centers (BMCs) are the facilities which receive the Specific Pathogen Free (SPF) Post Larvae (PL) from Nucleus Breeding Centre (NMB) and rear PL up to adult brood stock for supply to hatcheries under strict biosecurity and close disease surveillance. It is proposed to establish more BMCs and hatcheries to fill the gap.

#### 5.4.3.3 Policy level interventions

Areas which require policy level interventions for enhancing fish production and productivity are convergence with related schemes such as Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA), Rashtriya Krishi Vikas Yojana (RKVY), Sagarmala etc.

- i. Fisheries and Aquaculture are included in the State List however, the Union Government supplements the efforts of the States/Union Territories (UTs) for development of the sector. Inland sector is by and large, fully in the domain of State Governments while marine fisheries is a shared responsibility between the Central

and coastal State Governments. Coastal state governments & UTs are responsible for development and management/regulation of fisheries in the sea waters inside the 12 nautical miles (22 km) territorial limit. Government of India is responsible for the development and regulation of fisheries in the EEZ waters between 12 and 200 nautical miles (370 km).

- ii. Blue revolution is to be implemented with active cooperation of State Governments. To make it an implementable plan, State Governments were involved from the initial stage, as a measure of building confidence among the implementing agencies. Plan formulation was started with the assessment of current status of fisheries activities in all States. In-depth discussions were held to arrive at some workable mechanisms and to streamline the quantum of targets to ensure smooth operations at the time of execution.

#### 5.4.4 Achievements during last 5 years (2014-15 to 2018-19)

- i Central assistance of Rs. 2,21,605.35 lakh released for Fisheries Sector
- ii Assistance provided for bringing 33,659.04 ha area under aquaculture
- iii Sanctioned construction of 140 Nos of landing centers
- iv 397 Nos of Recirculatory Aquaculture Systems (RAS) approved.
- v Approved the installation of 13,460 Nos cages/pens in reservoirs and other open water bodies
- vi Approved establishment of 523 Nos of fish/prawn hatcheries
- vii 11,942 Traditional Crafts Motorised
- viii Sanctioned 13,457 Nos of safety kits for Fishermen at Sea

- ix Assistance provided to 1,107 Nos Traditional/ Artisanal fishermen
- x Sanctioned 6 fishing harbours/fish landing centers
- xi 420 units of post Harvest Infrastructure facilities viz., ice plants & cold storage have been sanctioned
- xii 19,457 units of fish transportation facilities viz., refrigerated & insulated trucks, auto rickshaws, motor cycles & bicycles with ice box have been sanctioned
- xiii Sanctioned 7,189 units of fish markets & fish mobile markets
- xiv Approved construction of 19,245 fishermen houses
- xv Insurance cover provided to 43.52 lakh fishermen annually.
- xvi Financial assistance provided to 2.09 lakh fishers annually under Saving-cum-Relief component during fishing lean/ban period
- xvii Skill training provided to 64,939 fish farmers & other stakeholders

**5.4.5 Swachhta Hi Sewa, 15th to 2nd October, 2018:** All the six subordinate institutes/organizations under the Fisheries Division and the States/UTs were requested to conduct the Swachhta Hi Sewa from the period 15th to 2nd October, 2018 to carry out recording and weeding out of office file, cleaning of office premises, cleaning of guest house and residential complex, pada yatra and creation of

awareness on Swachhta in the neighborhood of the offices, celebration of Swachh Bharat Diwas etc.

**5.4.6 Swachhta Pakhwada, 16th December to 31st December, 2018:** All the six subordinate institutes/organizations under the Department of Fisheries and the States/UTs were requested to conduct the Swachhta Pakhwada during the period 16th December to 31st December, 2018. Day-wise Plan of Action was prepared for this purpose and circulated to all the subordinate institutes/offices under this Division for implementation. The National Fisheries Development Board (NFDB), Fishery Survey of India (FSI), Central Institute of Fisheries Nautical and Engineering Training, (CIFNET), National Institute of Fisheries Post Harvest Technology and Training (NIFPHATT), Central Institute of Coastal Engineering for Fishery (CICEF), Coastal Aquaculture Authority (CAA) in coordination with State/UTs conducted the Swachhta Pakhwada for the said period with full zeal and enthusiasm.

## 5.5 Fisheries Institutes

### 5.5.1 National Fisheries Development Board (NFDB)

#### 5.5.1.1 Financial Assistance Provided during 2018-19

During 2018-19 a total amount of Rs. 10615.66 lakh was sanctioned (as on 2nd January 2019) out of which Rs. 3595.75 lakh was released to the States / UTs, National Organizations and other user agencies for implementation of various Projects under Blue Revolution Scheme:

Financial Assistance Provided by NFDB During 2018 -19			
Sl. No.	State / UT	Amount Sanctioned (Rs. in lakh)	Amount Released* (Rs. in lakh)
1	Andaman & Nicobar	1.00	1.00
2	Andhra Pradesh	718.75	174.79
3	Arunachal Pradesh	18.31	---
4	Assam	39.67	16.87
5	Bihar	6.25	6.25
6	Chhattisgarh	133.59	25.18



7	Delhi	236.97	130.95
8	Gujarat	6.75	137.33*
9	Haryana	8.26	5.68
10	Himachal Pradesh	2.63	2.50
11	J&K	14.00	14.00
12	Jharkhand	236.23	25.30
13	Karnataka	14.00	58.72*
14	Kerala	5238.50	846.42
15	Lakshadweep	9.05	4.53
16	Madhya Pradesh	5.00	5.00
17	Maharashtra	100.71	49.50
18	Manipur	44.90	21.05
19	Mizoram	2.50	2.50
20	Puducherry	0.65	0.65
21	Punjab	12.50	6.25
22	Rajasthan	52.02	37.29
23	Sikkim	6.25	6.25
24	Tamil Nadu	68.60	149.69*
24	Telangana	570.36	178.10
26	Tripura	5.00	5.00
27	Uttar Pradesh	85.47	---
28	Uttarakhand	5.00	---
29	West Bengal	104.11	59.09
30	National Organisation	2641.41	1604.36
31	Admin (NFFBB, etc.)	227.23	21.50
	<b>Grand Total</b>	<b>10615.66</b>	<b>3595.75</b>

\*Including releases pertaining to committed liabilities previous financial year(s)

Out of the total amount of Rs. 3595.75 lakh released during 2018-19 to the 29 States/ UTs National Organizations, etc., under the Blue

Revolution Scheme, the Activities wise releases were as follows:

Sl. No.	Activity	States/UTs/NOs	Amount Released (Rs. in lakh)
1	Domestic Market	Assam, Jharkahand, Karnataka, Kerala, Tamil Nadu & Telangana	154.50
2	Fish Farming Network System	Andhra Pradesh, Delhi, Karnataka, Rajasthan, Telangana and National Organizations	409.70
3	HRD	Different States/UTs	651.932
4	Intensive Aquaculture in Ponds & Tanks	Assam, West Bengal, Lakshadweep, Manipur, Telangana & National Organizations	120.99
5	Infrastructure for Fishing Harbours and Fish Landing Centres	Gujarat, Kerala & Tamil Nadu	168.95
6	Innovative Activities	Tamil Nadu & NBFGR	50.998
7	Mariculture	Kerala & National Organizations	784.08
8	Mera Matsya Dhan	National Organization - NFDB Activities	9.09
9	Re-circulatory Aquaculture System	Kerala	183.75
10	Open sea cage culture	National Organization	12.60
11	Quality Seed Programme	National Organization - NFDB Activities	0.18
12	Reservoir Development	Maharashtra	38.70
13	Coastal Aquaculture	National Organization	500.00
14	NFFBB, Bhubaneswar	National Organization - NFDB Activities	3.42
15	Other Activities	Andhra Pradesh, Assam, Chhattisgarh, Delhi, Kerala, Telangana, West Bengal & National Organizations	497.31
16	Fish Festivals	West Bengal & Delhi	9.80
	<b>Total</b>		<b>3595.75</b>

### 5.5.1.2 Human Resource Development (HRD) during 2018-19

During 2018-19, Skill Development Programme (SDP)/ Training of Trainers (ToT)/ Special Training Programmes were conducted with a financial assistance of Rs 483.3652 lakh to train 13,090 beneficiaries through 266 training programmes conducted by different ICAR/

Fisheries Institutions/ KVKs in different States/ UT. This includes training imparted under the Annual Action Plan for Skill Development Programmes (AAP-SDP), in which 13,090 beneficiaries were trained in 25 States/UTs in different activities like Pond culture, Reservoir Fisheries, Wetlands and Brackishwater Aquaculture.

**Table: Summary of Sanction & Release towards Training Programmes during 2018 -19**

Name of Implementing Agency	Amount Sanctioned (Rs. in lakh)	Amount Released (Rs. in lakh)	No. of Participants	No. of Days & Trainees Per Batch
ICAR/DADF/CSIR	131.00	57.00	2350	3-day SDP, 50/batch, except CIFT 25/batch
ICAR/DADF/CSIR	67.50	26.00	650	5-day ToT Programme, 25/batch
ASCI	177.00	81.00	325	25-day Special Programme, 25/batch
CIFNET, Tuna Long Lining	16.92	3.00	60	11-day Special Programme, 25/batch
MANAGE, AC & ADP	130.00	65.25	150	28-day Special Programme, 30/batch
AAP-SDP in 25 States/ UTs	47.125	131.11519	4925	3-day SDP, 50/batch
Other Releases	133.00	120.00	4630	---
<b>Total</b>	<b>655.42</b>	<b>483.3652</b>	<b>13090</b>	<b>---</b>

In addition, the RPL (Recognition of Prior Learning) Programmes were conducted with a financial assistance of Rs. 175 lakh, through which 6,611 beneficiaries were trained in the States of Uttar Pradesh, Andaman & Nicobar Islands, Bihar, Gujarat and West Bengal, by four

RPL Implementing Agencies, viz.: (1) ISAP (Indian Society of Agribusiness Professionals), New Delhi, (2) Labour Net Services India Pvt. Ltd., Bengaluru, (3) Coign Consultants Pvt. Ltd., Hyderabad, and (4) IL & FS, New Delhi.

Table: Summary of Sanction &amp; Release towards RPL Programmes during 2018-19

Name of Implementing Agency	Place of Training	Amount Sanctioned (Rs. in lakh)	Amount Released (Rs. in lakh)	No. RPL Trained
ISAP, New Delhi	Uttar Pradesh	70	56	2140
Labour Net, Bengaluru	Andaman & Nicobar Island and Gujarat	140	70.56	3041
Coign Consultants Pvt. Ltd., Hyderabad	Bihar	70	21	680
IL & FS, New Delhi	West Bengal	70	21	750
	<b>Total</b>	<b>350</b>	<b>168.56</b>	<b>6,611</b>



*Demonstration of Aquarium fabrication during Training on Ornamental Fish at OFTRI, Udaipur, Rajasthan*



*Participants of ToT sampling Seabass Broodstock in fish hatchery at CIBA Experimental Station, Muttukadu, Tamil Nadu*





*Training and Demonstration of Pearlspot Breeding and Culture Technology at CMFRI, Kochi, Kerala*



*Demonstration of cage fabrication to trainees at Fisheries College & Research Institute Thiruvallur District, Tamil Nadu*

### 5.5.1.3 NFDB Publications

During the year 2018-19 the following Documents were published/E-Published by the NFDB:

#### (i) Guidelines on Schemes & Funding Pattern

- (i) Guidelines – Centrally Sponsored Scheme on Blue Revolution: Integrated Development and Management of Fisheries. July 2018 (60-page Handbook in English and Hindi)
- (ii) Guidelines in Brief - Centrally Sponsored Scheme on Blue Revolution: Integrated Development and Management of Fisheries. July 2018 (8-pp Brochure English & Hindi)

#### (ii) NFDB E-Publications

- (i) NFDB E-Bulletin April – May 2018 Issue (8 pages)
- (ii) NFDB E-Bulletin June – July 2018 Issue (12 pages)
- (iii) NFDB Committed to Blue Revolution, July 2018 (8 pages)

- (iv) Blue Revolution – An Overview, July 2018 (8 pages, in Hindi and English)

#### (iii) Technologies/Package of Practices

- (i) “Package of Practices for Breeding and Culture of Commercially Important Freshwater Fish Species”. October 2018 (88-page Handbook in English)

#### (iv) Technical Information Brochure

- (i) Aqua-One Center – An ICT Enabled Aquaculture Support Service. July 2018 (2-page NFDB Projects Bulletin, No. 1, English and Hindi)
- (ii) Farming Silver Pompano in Brackishwater Ponds. September 2018 (6-page Brochure, English)
- (iii) November 2018 (6-page Brochure, Hindi)

#### (v) National Fish Farmers Day & World Fisheries Day – 2018

- (i) National Fish Farmers Day – 10th July 2018 (6-page Brochure in Hindi & English)

(ii) World Fisheries Day – 21st November 2018 (6-page Brochure in Hindi & English)

(iii) Neel Kranti – Documentary Film (DVD Video, Hindi & English)

#### (vi) Website

Information pertaining to the NFDB Activities, Projects, and all Publications (Newsletters, Guidelines, Books, etc.) are regularly uploaded to the Website: <http://www.nfdb.gov.in> (English & Hindi).

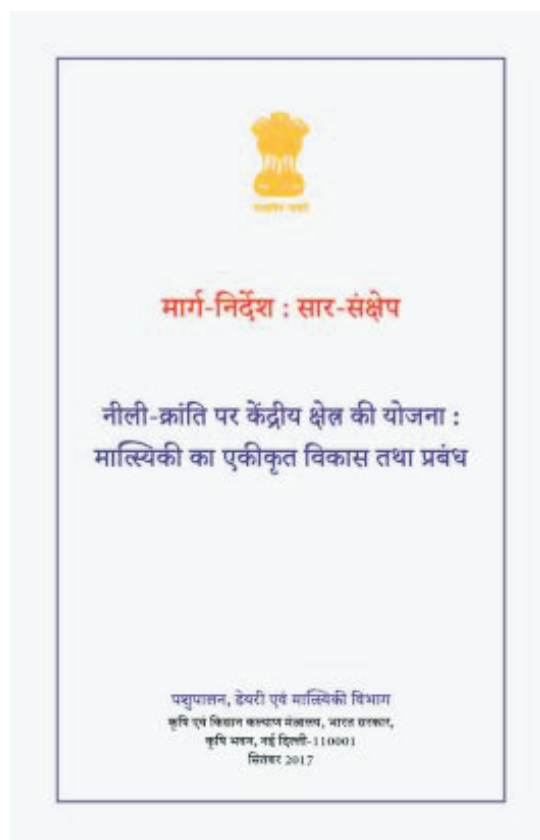
#### OUTCOME

The various documents, viz., Handbooks on Guidelines and Technologies, Brochures, etc., are Published/E-Published by NFDB with a view to create awareness and provide information to different stakeholders across the

country. NFDB Publications have also been given as handouts to the visitors at various Krishi / Kisan Melas, Exhibitions as well as to participants at the various Fisheries Meetings, Seminars, Workshops and Training Programmes organized across the country and to the State/UT officials and visitors at NFDB Office. Soft copies (PDFs) of all the documents published are uploaded to the NFDB Website for wider dissemination of the information.

#### Glimpses of NFDB Publications (2018-19)

Images of (i) Title-page of documents published/ E-Published during the year, (ii) Documentary Film on Neel Kranti made during the year, and (iii) Homepage of the NFDB Website:





## NATIONAL FISHERIES DEVELOPMENT BOARD COMMITTED TO BLUE REVOLUTION

### Introduction

Fisheries and Aquaculture comprise an important sector of food production in India, contributing substantially to the food basket. It not only ensures nutritional security among the population but also significantly contributes to the agricultural exports and provides gainful employment and livelihood support to more than fourteen million people engaged in different fisheries activities. India is the second largest fish producing country in the world with a production of about 11.41 million tonnes in 2016-17. Fish and fish products have presently emerged as one of the largest groups in agricultural exports of India, with 9.45 lakh tonnes in terms of quantity and 30,420.83 crore in value during 2015-16.

In order to utilise the large untapped potential in fisheries and aquaculture in the country, and in pursuance of the decision of the Government of India, National Fisheries Development Board (NFDB) was set up as a Registered Society at Hyderabad, under the administrative control of the Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture, Government of India, on 10th July 2006. The main objective of establishment of NFDB is to enhance fish production and productivity and to strengthen infrastructure facilities for overall development of fisheries sector.

### NFDB Vision

To develop fisheries and aquaculture in a big way by adopting new and innovative production technologies, management and utilisation of unutilised and underutilised water resources, establishment of adequate infrastructure for post harvest operations and proper market tie-ups.

### NFDB 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.

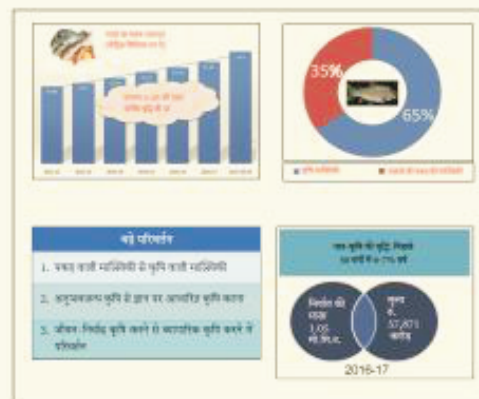
- Bring major activities relating to fisheries and aquaculture for focused attention and professional management
- Coordinate activities pertaining to fisheries undertaken by different Ministries/Departments in the Central Government and also coordinate with the State/Union Territory Governments
- Improve production, processing, storage, transport and marketing of the products of capture and culture fisheries
- Achieve sustainable management and conservation of natural aquatic resources including the fish stocks
- Apply modern tools of research and development including biotechnology for optimising production and productivity from fisheries
- Provide modern infrastructure mechanisms for fisheries and ensure their effective management and optimum utilisation
- Generate substantial employment
- Train and empower women in the fisheries sector
- Enhance contribution of fish towards food and nutritional security.

## नीली क्रांति - एक सिंहावलोकन

### परिचय

मत्स्यिकी और जल-जुषि, भारतीय में खाद्य उत्पादन के एक प्रमुख क्षेत्र में गिनते जाने हैं जो खाद्य-टीकड़े में एक बहुत बड़ा योगदान देते हैं। यह खाद्यक्षेत्र के अर्थ में केवल पंचमका क्षेत्रों में एक प्रमुख क्षेत्र है जबकि कृषि क्षेत्रों में मत्स्यिकी का योगदान भी बढ़ती है और यह मत्स्यिकी के विश्व-व्यापी में संसार 14 मिलियन से भी अधिक मत्स्यिकों को रोजगार देकर और आजीविका में सहायता प्रदान करती है।

देश में मत्स्यिकी और जल-जुषि में योगदान की गई बढ़ी संभावना का उपयोग करने के लिए और अच्छा सरकार के निर्णय के अनुसार, मत्स्यिकी, जल-जुषि और मत्स्यिकी विकास, कृषि मंत्रालय, भारत सरकार के प्राथमिक विभाग में विभाग 10 तय है, 2006 को एक पंजीकृत समाज के रूप में हैदराबाद में स्थापित मत्स्यिकी विकास बोर्ड (एन.एफ.डी.बी.) की स्थापना की गई थी। एन.एफ.डी.बी. की स्थापना का मुख्य उद्देश्य है: खाद्य उत्पादन और आजीविका बढ़ाना और मत्स्यिकी के क्षेत्र के समग्र विकास के लिए सुनिश्चित सुविधाओं को समर्थन देना।



## E-Bulletin National Fisheries Development Board

Volume 1, Issue 1 &amp; 2

April &amp; May 2018



### Blue Revolution – Integrated Development and Management of Fisheries

Fish touch our lives in countless ways in terms of providing food, nutrition, recreation, livelihood, employment, and many more. It comes mainly from two modes of production systems: Capture Fisheries (capturing wild fish from marine and freshwater) and Culture Fisheries (farming fish, also known as aquaculture). India is the second largest fish producing country in the world with production of 11.41 million metric tonnes in 2016-17 and production is expected to exceed 12.50 million metric tonnes in 2017-18. Indian fisheries is one of the most comprehensive and representative fisheries globally, with both marine and inland fisheries, warm and cold water fisheries. It significantly contributes to the socio-economic growth of the country.

The National Fisheries Development Board (NFDB), established in 2006, is an autonomous organization under the administrative control of the Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture and Farmers Welfare, Govt. of India. It was set up to realize the untapped potential of fisheries sector in inland and marine fish capture and culture, processing and marketing of fish, and accelerate the overall growth of fisheries sector with the application of modern technology backed by research & development. In the 12 years of its existence, NFDB has taken up numerous and multidimensional developmental activities which have undoubtedly brought visible positive changes in production and productivity as well as post-harvest operations of the fisheries sector. Nevertheless, the primary role of NFDB, till recently, has been to channelize Govt. of India funds through activities such as identifying the needs of implementing agencies, providing technical guidance, increasing physical and financial progress of projects, impact assessment, etc. that have remained an integral component.

To accelerate the growth further, the fisheries sector needs to adopt new strategies based on time, situation and context. Recognising the high-potential, the Hon'ble Prime Minister in 2016 called for a "Blue Revolution" in the fisheries sector. To realise this vision, Department of Animal Husbandry, Dairying & Fisheries launched in the same year the Scheme named "Blue

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## E-Bulletin National Fisheries Development Board

Volume 1, Issue 3 &amp; 4

June &amp; July 2018



### National Fish Farmers Day Observed on 10<sup>th</sup> July

**Background:** It was on 10th July 1957 that Dr. Hiral Choudhary for the first time achieved success in induced breeding freshwater fish (Indian Major Carps) in captivity through administration of carp primary oocyte (Hypophysation). That breakthrough brought about a sea change in the country leading to higher fish production from culture fisheries than from capture fisheries and finally took the country's total fish production to the 2nd highest position in the world. In order to commemorate this day, Govt. of India in 2008 declared 10th July as the "National Fish Farmers Day".

Further, 10th July happens to be the Foundation Day of the NFDB, which came into existence in the year 2006, with HQ at Hyderabad, for giving a thrust to the Fisheries and Aquaculture Sector in the country. Thus, 10th July is a special day to NFDB and is therefore celebrated with gusto.

**National Fish Farmers Day (NFFD-2018):** Observance of the Day was organized by the NFDB in a befitting manner on 9th and 10th July 2018 at YMCA Campus, Beach Road, Velthampallam, Andhra Pradesh. The Day is also observed by Fisheries Research Institutes/Fisheries Organizations of Govt. of India, and Fisheries Deptts. of States.

The two-day celebrations comprised of: (i) Inaugural Programme, (ii) Technical Session, (iii) Exhibition and (iv) Fish Festival. Dr. B. Chand, Executive Director, NFDB welcomed, Dr. E. Ramesh Kumar, IAS, Joint Secretary (F), DAFW, was the Chief Guest, Shri Ram Shankar Naik, IAS, Commissioner of Fisheries, A.P., presided, Smt. J. Rani Kandaswari, IAS,



Left: J. Rani Kandaswari, Chief Executive, NFDB addressing the gathering. Right: E. Ramesh Kumar, Joint Secretary (F), DAFW inaugurating the exhibition.

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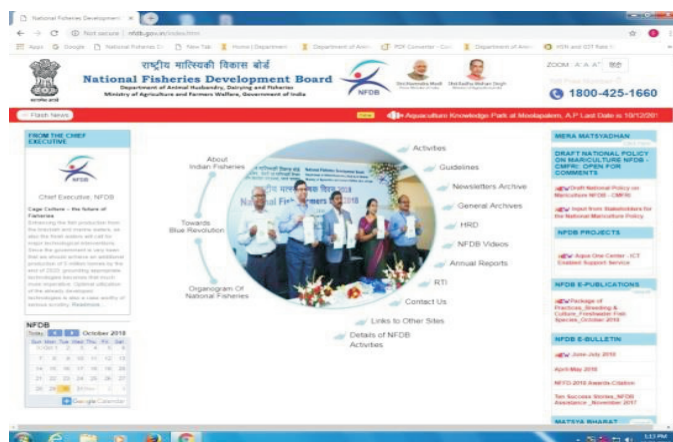
**Package of Practices for Breeding and Culture of Commercially Important Freshwater Fish Species**



**National Fisheries Development Board**  
Department of Animal Husbandry, Dairying & Fisheries  
Ministry of Agriculture & Farmers Welfare, Govt. of India  
Hyderabad – 500 052

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(1) Krishi Mela - State Level Agricultural Fair cum Farmer-Scientist Meet 2018 during 12-16 April 2018 at Zilla School Ground, Mothihari, Bihar:

The 3-day Krishi Mela was inaugurated by the Hon'ble Union Agriculture Minister, Shri Radha Mohan Singh on 13th April 2018; he addressed the gathering on importance of Agriculture and allied sectors in the region and highlighted the

schemes and activities taken up Government of India. Other dignitaries briefed on the importance of new technologies developed by the various institutes towards doubling of the farmer's income. NFDB's stall was arranged by officers of NFDB; the Blue Revolution Scheme and activities of NFDB were explained and brochures and pamphlets were distributed to the visiting farmers and entrepreneurs.



*Hon'ble Union Agriculture Minister addressing the gathering (left); view of NFDB Stall (right)*

On this occasion, the Hon'ble Union Agriculture Minister, Shri Radha Mohan Singh launched the project "Ushering Blue Revolution in selected wetlands of Bihar through participatory technological interventions" funded by NFDB to ICAR-CIFRI, Barrackpore. The fish farmer representatives and Fisherman Cooperative Societies (FCS) Chairman of four wetlands, viz.,

Sirsa, Kararia, Rulhi and Majaharia were felicitated during the session. Various speakers / Scientists of ICAR delivered lectures on fish farming methods, hatchery management methods, marketing and processing methods. The farmers and fishers attended the session raised various queries and the same were clarified by the experts.



*Inauguration of NFDB-CIFRI Wetland Project by Hon'ble AM (left); Fisheries officials with Fishermen Coop Society members during the Matsya Kisan Goshti (right)*



**(2) International Day for Biological Diversity on 22nd May, 2019 at Dr. Jayashankar Telangana State Agricultural University, Rajendranagar, Hyderabad:**

The International Day for Biological Diversity (IDB), a national level event was celebrated in Commemoration of adoption of the Convention on Biological Diversity (CBD). The program was organized by Government of India in coordination with the National Biodiversity Authority (NBA) and the Telangana State Biodiversity Board on 22nd May, 2019 at Dr.

Jayashankar Telangana State Agricultural University, Rajendranagar, Hyderabad. The theme for IDB for the year 2018 is “Celebrating 25 years of Action for Biodiversity”. An Exhibition was held on the occasion and was inaugurated by Shri. Jogu Ramanna, the Hon'ble Forest Minister of Telangana State. The NFDB had participated and arranged a stall. Blue Revolution schemes and activities of NFDB were explained to the visitors and interested conservationists; brochures and pamphlets were distributed to farmers and visitors.



*View of NFDB Stall*

**(3) National Fish Farmers Day and National Fish Festival organized during 9th & 10th July 2018 at YMCA Complex, Beach Road, Visakhapatnam, Andhra Pradesh:**

The National Fish Farmers Day (10th July) was observed by the NFDB; on this occasion an Exhibition and a National Fish Festival were organized on 9th and 10th July 2018 at the YMCA Complex, Beach Road, Visakhapatnam,



*Shri Jogu Ramanna, Hon'ble Minister for Forests, Telangana State visiting NFDB Stall*

Andhra Pradesh, which was inaugurated jointly by the Joint Secretary (Fy), DADF, GoI, Commissioner of Fisheries, AP and CE-NFDB. Different State Fisheries Depts., GoI Fisheries Organization, SHG, Private Fishery Companies and the NFDB showcased their activities, technology, product etc., which attracted a large number of participants/ visitors.



*Dr. E. Ramesh Kumar, Joint Secretary (Fy), DADF, Commissioner of Fisheries, Andhra Pradesh, Chief Executive, NFDB and other dignitaries at the opening of exhibition stalls*





### Fish Food show:

The Fish Festival was inaugurated by the Joint Secretary (Fy), DADF, GoI in presence of Commissioner of Fisheries, AP, CE-NFDB and huge number of participants and visitors, where altogether seven Fish Cuisine Stalls from



*Inauguration of Fish Food Show*



*A typical Fish Food Stall*

### Award Ceremony:

On the occasion, 18 awards were given for excellence in fisheries. Awardees were felicitated with a shawl, certificate, citation,



*Smt I Rani Kumudini, Chief Executive, NFDB and Commissioner of Fisheries, AP giving cash award, citation and memento to an awardee*

renowned private Restaurant/ Hotel chains, Govt. undertakings such as the "All Fish Restaurant" (West Bengal State Fisheries), Ananda Group's "NutriFish" (Andhra Pradesh) participated with their varieties of mouth-watering cuisines and dishes, mainly on fishes.



*Joint Secretary (Fy), GoI interacting with one SHG Fish Food Entrepreneur; CE-NFDB looks on*



*Fish Food lovers in the Fish Food Stall*

memento and cash award (Rs. 51,000 for 1st and Rs. 21,000 for 2nd by cheque) were given by the guests of honour, Joint Secretary (Fy), GoI, Commissioner of Fisheries, AP, Chief Executive, NFDB and other dignitaries.





**(4) Badalta Banaras - Krishak Kalyan Karyashala organized on 1st September, 2018 at Bada Lalpur, Varanasi, Uttar Pradesh:**

*Badalta Banaras - Krishak Kalyan Karyashala* was organized on 1st September, 2018 at Bada Lalpur, Varanasi, Uttar Pradesh which was inaugurated by Hon'ble Union Minister of Agriculture & Farmers Welfare, Shri Radhamohan Singh and attended by many State dignitaries. Successful farmers from all sectors gave their feedback and shared their experience on farming. After interaction with farmers, the Agriculture Minister addressed the gathering and briefed on the initiatives taken by the Union Government for the development of agriculture sector and welfare of farmers. NFDB Stall was arranged in which banners on Blue Revolution

Schemes and State and region specific fisheries schemes and activities were highlighted. Blue Revolution guidelines, Aqua One Centre leaflet, DVD's on Neeli Kranti (with 150 Radio Talks on various fisheries aspects) and printed material of UP State Fisheries Department were distributed. The Neeli Kranti Documentary film in Hindi was played during the programme on big screens all over the venue. The Mela was attended by 5000 farmers from Varanasi region (from 3 blocks), out of which 40 are from fisheries sector.

Hon'ble AM visited the exhibition stalls and expressed his gratitude to NFDB for the role it is playing towards development of fisheries sector in India.



*Venue: Trade Facilitation Centre*



*Dignitaries on the dais in the meeting hall*



*Address by Hon'ble AM*



*A view of the audience*



*Fisheries officials at Stall*



*Farmers visiting Fisheries stall*

**(5) The 5th Edition of Aquaculture CEOs Forum India & AI Awards 2018 held on 9th September, 2018 at Hyderabad:**

Aquaculture CEOs Forum India & AI Awards 2018 is a forum to discuss, analyse and to come out with concrete ideas and plans to accelerate sustainable growth and development in Aquaculture sector in India, and also to present National Awards for best performance and contribution to Aquaculture in India. The 5th Edition was held on 9th September, 2018 at Hyderabad. Smt. I. Rani Kumudini, Chief Executive, NFDB participated in the event,

delivered key note address for sustainable development of fisheries sector and gave awards to the successful entrepreneurs.

**(6) The 5th “Vibrant India - 2018” held during 2nd to 4th November, 2018 at Dilli Haat, Pitampura, New Delhi:**

The 5th “Vibrant India - 2018” was held during 2nd to 4th November, 2018 at Dilli Haat, Pitampura, New Delhi. NFDB set up a Stall and showcased all activities, programmes and schemes towards development of fisheries sector in the country. The three-day event was attended by a large number of people.





**(7) ICE India Expo - ICE-2018 held during 16th to 17th November, 2018 at Hyderabad**

The ICE-2018 the Cold Chain Expo was held at the Hitex Exhibition Centre, Hyderabad, and was inaugurated jointly by the APC & Principal Secretary, Agriculture & Co-operation (Fy), Secretary (AHD&F), Telangana, and the CE-NFDB. The expo was to create a better understanding of cold chain challenges impacting the daily operations of the food

industry. Different organization, SHGs, Private Companies and NFDB show cased their activities, technology, product etc., which attracted large number visitors. NFDB showcased its activities, programmes and schemes towards development of fisheries sector in the country. The NFDB stall was represented by Dr. M. Vishwas Rao, Consultant (Tech) & Shri Dipin Executive Assistant (Tech).



*Inauguration of Indian Cold Chain Expo-2018 & Cold Storage Kiosk at the Expo and NFDB Stall at ICE-2018*

**(8) National Fish Food Festival, 20th to 25th November, 2018 at New Delhi:**

NFDB organized a 6-day Fish Food Festival at Dilli Haat, INA, New Delhi from 20th to 25th November, 2018. The event was inaugurated by the Joint Secretary (Fy), DADF, MoA, Govt. of India on 20th November, 2018. The festival was

organized with 15 stalls with the participation of major restaurants, Govt. organizations, entrepreneurs, etc., to popularize consumption of fish and fish products. Different varieties of fish and shrimp dishes were prepared and served to the visitors. The fish food festival attracted huge crowd.





### **(9) World Fisheries Day Celebration on 21st November 2018 at Patna, Bihar**

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 and this year, for the first time, World fisheries Day was celebrated at Gyanbhvan, Patna, Bihar. Shri Radha Mohan Singh, Hon'ble Union Minister for Agriculture was the Chief Guest of the event, while Shri Sushil Kumar Modi, Hon'ble Deputy CM of Bihar was the Guests of Honour.



*Shri Radha Mohan Singh, Hon'ble Union Minister for Agriculture addressing the gathering at the World Fisheries Day 2018 celebration*

**Inauguration of Exhibition & Fish Festival:** The dignitaries inaugurated the exhibition showcasing the technological advances made and development achieved in Fisheries Sector in the country. 50 exhibitors from Fisheries Departments of different States/ Institutes/

Organizations/ Entrepreneurs/ Hatchery owners/ Feed Manufacturing Companies/ Feed Supplement Dealers exhibited their activities, schemes, achievements, technologies, products, etc. for the benefit of fishers, fish farmers and general public.





Dr. J. Balaji, IAS, Joint Secretary, Department of Animal Husbandry, Dairying & Fisheries, Govt. of India and Dr. N. Vijayalakshmi, IAS, Secretary, Department of Animal & Fisheries Resources, Govt. of Bihar addressed the gathering.

**Release of Publications and CDs brought out on the occasion of World Fisheries Day 2018:**

Shri Radha Mohan Singh, Hon'ble Union Minister of Agriculture and Farmers Welfare released the following: (i) Handbook on "Package of Practices for Commercially Important Freshwater Fish Species" and (ii) CD on 'NeeliKranti' Documentary Film (English & Hindi).

Smt. Krishna Raj, Hon'ble Union Minister of State for Agriculture and Farmers Welfare released the Brochure on 'Farming Silver Pompano in Brackish Water Ponds' (English & Hindi).

Shri Sushil Kumar Modi, Hon'ble Deputy Chief Minister, Bihar released the publication on "Role of Women in Fisheries Sector" published by the Department of Animal & Fisheries Resources, Govt. of Bihar.

Distribution of mobile fish retailing, motor vehicle: On the occasion of World Fisheries Day 2018, 50 two-wheelers with Ice-box were distributed to 50 fishers for mobile retail fish marketing.



*Hon'ble Union Minister Shri Radha Mohan Singh handing over the Key and Dignitaries flagging off the Two-Wheelers with Ice-box for Retail Fish Marketing*

### 5.5.1.5 Swachh Bharat Mission (Swachh Bharat Abhiyan) - 2018

(A) *Swachhta* Action Plan Activities during 2018

Under *Swachhta* Action Plan 2018, NFDB

provided financial assistance of Rs.13.74 lakh towards cleaning 32 NFDB funded fish markets in 16 States and organizing 3 Awareness Camps/Workshops in 3 States. as detailed below:

Sl. No.	States/UTs	Financial Assistance (Rs. in lakh)
1	Andhra Pradesh	0.35
2	Kerala	0.70
3	Tamil Nadu	2.45
4	Assam	1.12
5	Manipur	0.56
6	Sikkim	0.56
7	Uttar Pradesh	0.70
8	Punjab	0.35
9	Madhya Pradesh	0.35
10	Jharkhand	0.35
11	West Bengal	0.70
12	Maharashtra	2.10
13	Chhattisgarh	0.70
14	Odisha	0.35
15	NCR, Delhi	0.70
16	NFDB-NERC, Guwahati	0.70
<b>Sub total</b>		<b>12.74</b>
<b>Awareness Camps/Workshops</b>		
1	Tamil Nadu	0.25
2	West Bengal	0.25
3	NFDB-NERC, Guwahati	0.50
<b>Sub total</b>		<b>1.00</b>
<b>Grand Total</b>		<b>13.74</b>



## (B) Swachhta Campaign by NFDB at Gudimalkapur Fish Market, Hyderabad

The following activities were organized under the programme “Swachhta of Fish Markets” on

18th -19th June, 2018 in Gudimalkapur Fish Market by National Fisheries Development Board, Hyderabad.

### 1. Cleaning Fish Market at Gudimalkapur, Hyderabad

Before Cleaning

After Cleaning



### 2. Awareness Campaign at Gudimalkapur Fish Market





**(C) Swachhta Campaign at NFDB, Hyderabad**

The following activities were undertaken by the officers & Staff of NFDB:

**(1) Swachhta Padyatra and Pledge-taking on 1<sup>st</sup> June 2018****(2) Swachhta activity in NFDB Office Premises****5.5.2 Central Institute of Fisheries Nautical & Engineering Training, (CIFNET)**



Advancements in sea fishing necessitated great demand for qualified and certified personal for manning the fishing vessels. Considering the need and importance of organized fisheries training system at national level, Central Institute of Fisheries, Nautical & Engineering Training (CIFNET) was established in 1963 at Kochi by Ministry of Agriculture & Farmers Welfare, Government of India. Later two more units were established at Chennai and Visakhapatnam. Since its inception CIFNET is serving the nation by creating trained manpower required for manning the ocean going fishing vessels.

The Institute was established with the following objectives

- To create technical manpower for the operation of Ocean going fishing vessels and to run infrastructure establishments.
- To create trained manpower to manage fishery establishment.
- To provide training for technical teachers for manning the fishermen training centers attached to Maritime States and Union Territories.
- To conduct studies on fishing craft, fishing gears and equipments and provide extensive training to accelerate advancement in fishing technology for enhancing productivity of fishermen and increasing marine fish production.
- To help developing nations in the South-east Asian, Middle east and African regions to create technical manpower for development of Marine Fisheries.
- To provide technical consultancy service in all matters with special reference to technical manpower requirements.

The Institute conducts various courses including (i) Bachelor of Fisheries Science

(Nautical Science) approved and affiliated by Cochin University of Science & Technology, Kochi recognized by UGC. (ii) Two trade courses , Vessel Navigator Course (VNC) & Marine Fitter Course (MFC) of duration of 2 years approved by Ministry of Labour, affiliated to National Council for Vocational Training (NCVT) and (iii) Short term training programmes for the benefit of students from professional colleges, sister organizations, Fisheries Departments of the State Govt. coast guard officials etc. and Extension programmes for fishermen.

During the year 2018-19 (till 31st December 2018), 98 students of BFSc(NS) and 181 trainees of VNC/MFC attended the regular courses. In addition a total of 855 candidates were trained in various short term and extension courses. Statutory Course namely Advanced Fishing Technology Course (AFTC) was conducted during September 2018 for 1 candidate for appearing the certificate of competency examination as Skipper Gr.II conducted by the Mercantile Marine Department. In addition a total of 1101 candidates were trained in various short term and extension courses, which includes Fishermen training programmes under "capacity Building in Deep sea fishing and "onboard Handling of Tuna" conducted for a total of 550 fishermen sponsored by NFDB skill Development training programme conducted for 109 fishermen sponsored by NFDB and Fishery Technology course conducted for the coast Guard officials (59 No's) during July 2018 and for professional college students (383 No.s).

During the period under report, the Training Vessels of CIFNET have carried out sailing for a total of 370 days out at sea with fishing days of 285 days, expending total fishing effort for 1097 hrs and a total fish catch of 16.978 Kgs. The vessel achieved 3107. Post Institutional trainee days and 2724 Institutional trainee days.

During the year 2018-19, CIFNET incurred an expenditure of Rs.13.498 crore. A revenue of Rs.46.33 lakh was earned (up to December 2018).

### 5.5.3 National Institute of Fisheries Post Harvest Technology and Training (NIFPHATT)



**5.5.3.1** During pre-independence and independence era, the Indian scenario on agriculture production, fisheries and animal husbandry was very grim. All the developments for the past several decades in the above-mentioned fields that have been achieved by India can very well be attributed to the programmes such as Indo-Swiz, Indo-Norwegian etc. initiated by the great visionaries of India during those days. The introduction of mechanized fishing, initiated in India by the Indo-Norwegian Project (the forerunner of NIFPHATT) has opened a new chapter in the marine fish production of India. Now marine products have risen to the level of earning a major portion of foreign exchange for India.

**5.5.3.2** Mechanization of fishing has brought in, other concerns such as handling of bulk fish landings. This has lead to the introduction of modern preservation methods. Acceptance of several such non conventional fish varieties and fishery products or preservation techniques by

the consumers was another achievement worth mentioning.

Popularization of fishery products, importance of fish handling & preservation and spreading the message of fish as a safe and healthy food was another service carried out by this Institute. Now the present generation may wonder to hear that there was a time, when iced fish was considered as second grade or even semi spoiled one. Consumer's mindset was attuned to accept nothing less than freshly caught fishes. The



interior areas were forced to satisfy with dried /cured fish. Later a similar reluctance has prevailed to accept frozen fishery products for several decades. Even during eighties or early nineties, customers were much skeptic even in trying frozen varieties. Canned fishery products' case was also not different.

**5.5.3.3** The customer attitudes have not changed overnight or naturally happened, but through intentional and well focused awareness programmes. NIFPHATT as a pioneer Institute in the field of fisheries in India can very well boast to have played a small but a very significant role in Indian fisheries development. The objectives of this Institute have been redefined, fine tuning to meet the requirements of the changed scenarios in the sector. Now more focus is given to product development and popularization, human resource development and gender development through tools like training programmes and consultancy services.

**5.5.3.4** Business incubation centre for Promoting novel and nascent entrepreneurship in value added fish export

In order to shift the focus from frozen to chilled form NIFPHATT had set up a chilled tuna processing facility (meant for other fishes also during lean seasons) with the support of MPEDA. This plant has a water front with landing/berthing facility facing the main channel. This plant is expected to act as groundswell for similar entrepreneurship.

This facility was made available to the private exporter on dry lease basis as promotional measure so that the private sector could take up this line of business without facing the risks associated with a nascent venture such as high capital investments, operational costs, markets etc. Chilled fishery products are exported by air

cargo and are expected to reach the market/destinations within the possible minimum time. During the period under report 412 tons of fish was exported by the private exporter and fetched revenue about Rs. 20.95 crore ( As per given by M/s. Coral Exports Pvt. Ltd)

**5.5.3.5.** Human Resurce Development in Fisheries sector-NIFPHATT's role

The training programmes of NIFPHATT are sectoral specific and subject specific in different disciplines of the post harvest technology and refrigeration technology. The training programmes are designed in such a way that it provides intensive hands on experience to the students who are pursuing specialized education in fisheries science, biotechnology, food science, food microbiology, food engineering and professionals working in fisheries sector. To augment the development of manpower in the fisheries and allied sectors, the Institute offer the following diversified training programmes in the various fields of fisheries post harvest technology, Refrigeration technology, Quality control and value added product development.

1. On the job training in fisheries post harvest technology for VHSE/ under/post graduates students from various Schools/ Colleges/ Universities.
2. Training in Microbiological Analysis
3. Inplant Training
4. Skill up gradation of fishermen/ fisherwomen on high end product development
5. Short term training on value added product development



6. Training in onboard and onshore handling of sashimi tuna in association with CIFNET
7. VHSE Apprenticeship Training

During this year a total of 1374 students were benefited by the training programme with 13057 trainee days.

#### **5.5.3.6 Performance of NIFPHATT during 2018-19 (up to 31.12.2018) at a glance**

During 2018-19 (up to 31st December, 2018) the Institute has processed 110.46 tons of fish and developed 125.06 tons of various fishery products from it. NIFPHATT test marketed and popularized 104.62 tons of fish and fishery products through stalls, mobile units, exhibitions, trade fairs, dealers, contract sales etc valued at Rs.154.72 lakh. The Institute has imparted training to a total of 1374 trainees under various disciplines with 13057 trainee days and fetched revenue of Rs 6.77 lakh for the period under report. The Institute has fetched total revenue of Rs. 231.27 lakh both by HQ, Kochi and Visakhapatnam unit from all sources.

During 2017-18 Rs. 916.28 lakh was incurred on Non Plan (up to 31st December, 2018)

#### **5.5.4 Fishery Survey of India (FSI)**

5.5.4.1 The Fishery Survey of India is a nodal agency for carrying out the survey, assessment and monitoring of marine fishery resources in the Indian EEZ within the framework of a well defined mandate. FSI has been bestowed with the responsibility of collecting tuna data and submit the same to the Indian Ocean Tuna Commission (IOTC) in the form of India's National Report. The Institute also imparts training to the students sponsored by the CIFNET, Kochi onboard survey vessels on tenure basis. Presently, FSI has a fleet of 11 deep

sea survey vessels with the state of art technology of which 2 are multifilament tuna longliners, 2 are monofilament tuna longliners and 7 Stern Trawlers which are being deployed from six operational Bases; Mumbai, Mormugao, Cochin, Chennai, Vishakhapatnam and Port Blair in order to accomplish the mandate of the Institute.

5.5.4.2 As a part of extension activities, the FSI has been organizing Regional Workshops, Open houses and marine Fisheries Exhibitions in order to disseminate the survey findings to the fishermen, fishing industry and other end users. Besides these, dissemination of information on marine fishery resources is also being done through various publications such as Resources Information Series, Meena News, Charts and Bulletins etc. During the year 04 workshops, 02 open houses, 02 marine fisheries exhibitions were organized in the maritime States of India and also participated various Fish Festivals organized by respective State Governments of Maritime States and other sister organizations. Under the capacity building, the institute also provides on-board training on tuna long lining to the fishermen of respective maritime States in order to provide awareness as well as developing skills in the technology. Total 51 no. of fishermen were trained during the year 2018-19 (up to November 2018).

#### **5.5.4.3 Mumbai and Mormugao Base:**

A one-day combined regional workshop was organized by Mumbai Base and Mormugao Base on the theme of "Marine Fishery Resources of Maharashtra: Sustainable Utilization, Development and Management" on 27th June 2018 at Sai Mangal Karyalay, Vengurla, Maharashtra.





#### 5.5.4.4 Chennai Base:

One day regional workshop on “Marine Fishery Resources of Tamil Nadu and Puducherry Coast” was conducted at Conference hall of the Department of Fisheries and Fishermen welfare, Fishing Harbour Complex, Thengaithittu, Puducherry on 20th September, 2018 for the benefit of the local fishermen. The workshop was organized in association with the Department of Fisheries, and Fishermen welfare, UT Government of Puducherry. Diversified fishing method of converting the trawlers to long liners were explained to the fishermen to harvest tuna and allied resources



from the deeper waters to reduce the fishing pressure from coastal waters.

An Open House was also arranged at the venue, where Charts, Photograph of Fishes, Models of Gears, Gear accessories and life saving equipments were displayed during the workshop.

#### 5.5.4.5 Visakhapatnam Base:

Visakhapatnam Base of Fishery Survey of India participated and put up an exhibition stall in “9th Krishi Fair-2018” held at Jagannatha dham, Puri, Odisha organized by Shree Shrikshetra Soochana (SSS), Puri, Odisha during the period 03rd - 07th June 2018.



Visakhapatnam Base had organized one day regional workshop on “Marine Fishery Resources of Upper East Coast of India” in association with the Department of Fisheries, Govt. of Odisha at the Hotel Lucky International, Balasore, Odisha on 05 June 2018. The main objective of the workshop was to



disseminate the survey findings on the resources availability, diversified fishing methods, exploitation of Oceanic fishery resources and their preservation, Code of Conduct for Responsible Fisheries (CCRF) and safety measurements to be taken while at sea to the local Fisherfolk.



One day regional workshop was organised on “Marine Fishery Resources of Andhra Pradesh and Diversified Fishing Methods” at the office of the Assistant Director of Fisheries, Avanigadda, Krishna District, Andhra Pradesh on 08.09.2018.



Visakhapatnam Base participated in the Fish Festival and put up a stall in the “National Fish Farmers Day Celebrations” organized by National Fisheries Development Board (NFDB), Hyderabad at YMCA complex, Visakhapatnam during 9th – 10th July 2018. The aim of the participation was the dissemination of the survey findings of FSI as well as to sensitize the local fishermen on the precautionary measures to be taken while at sea and also various modalities of the Code of Conduct for Responsible Fisheries (CCRF)

which needs to be followed voluntarily for sustainability in fisheries.



#### 5.5.4.6 Port Blair Base

Port Blair Base of Fishery Survey of India (FSI) organized a one-day Regional Workshop on “Sustainable Utilization of Marine Fishery Resources of Andaman and Nicobar Waters” on 10.05.2018 at Havelock to disseminate the information on the fishery resources, their potential and availability, various eco-friendly fishing methods to exploit the abundant oceanic resources as well as the perch resources, optimum utilization of fishery resources, importance of conservation of the marine resources, marine engines and their maintenance etc. to the local fisher folks of Havelock Island.

Port Blair Base of Fishery Survey of India had organized an Open House onboard the vessel MFV Blue Marlin at Havelock Island on 11.05.2018 for the benefit of Student community, fishermen and general public. Various fishing gears and accessories, navigational, engineering and oceanographic equipments, various aspects on safety at sea and Code of Conduct for Responsible Fisheries (CCRF) were displayed and demonstrated during the occasion.





#### 5.5.4.7 Collaborative Programme:

##### ➤ Special training Programme on Tuna longline:

Chennai Base of FSI conducted Xth phase training programme on the capacity building on deep sea fishing and training on “Tuna longlining to traditional fishers” in association with CIFNET, Chennai and Department of Fisheries, Tamil Nadu for the month of April'2018. The training was provided with theoretical lectures on 17th & 18th April 2018 for 15 fishermen trainees from Pudukottai and Ramanathapuram Districts of Tamil Nadu at CIFNET, Chennai.

##### ➤ Hands on training on modern fishing technologies onboard MFV Blue Marlin

The fishermen were individually trained on operation of electronic fish finding, oceanographic, navigational, sea safety and communication equipments including, Automatic weather station, RADAR, EPIRB, RT, VHF, Direction finder, Radio buoys etc.

and marine engines. During the fishing operation, the fishermen were trained on selection of fishing ground, direction of gear deployment and desired speed of the vessel during fishing operation, hooking of bait, shooting of line etc. While retrieving the gear, they were trained on precaution to be taken during hauling, coiling of branch line, landing of catch onboard and preservation of catch etc. It was first time experience for the most of the local fishermen.

##### ➤ Capacity building and training on tuna longlining to traditional fishers deploying the training vessel under proposed deep sea fishing vessel of DADF:

The Chennai Base has successfully conducted a special training programme to five Tamil Nadu fishermen on “Capacity building and training on tuna long lining” on board the vessel MFV Matsya Drushti for 5 days. The Base scientists had also took theory classes and delivered lectures on various subjects related to tuna fishing and preservation, such as other oceanic fishery resources, tuna species and their distribution and behavior, monofilament long lining, deck equipment's and accessories and tuna fish handling and preservation. Besides, navigation, fish finding, communication and safety of the vessel were also through to them. NFDB funded and organized the programme jointly with CIFNET, Chennai.





#### ➤ **SAMUDRA Project:**

The Satellite based Marine process Understanding, Development, Research and Applications (SAMUDRA) Fish Track Programmes Space Application Centre, Dept. of Space, Govt. of India, a collaborative project on “Identification, forecasting and monitoring of Potential Fishing Zone for Tamil Nadu coastal and offshore waters” was undertaken. The main objective of the project is to collect water quality parameters in tandem with fish catch and to test the possible role of these parameters in influencing the fishery of the region, to collect geo-tagged fish catch data using fishing vessels in connection with PFZ forecast and validation, validation of satellite

and model outputs with in situ parameters to assist in developing and validating fish track algorithm based outputs etc.

#### **5.5.4.8 Human Resource Development and other events:**

##### **Swacchta Hi Seva programme:**

Cleanliness drive Swachhata Hi Seva Programme was observed By HQs and Bases for the period from 15th September – 2nd October 2018. During the programme all the officers & staff of the Headquarter(s) and bases were actively involved in cleaning of the office building and its premises, weeding out plants, and cleaning water logged area.





### Yoga Day:

Fishery Survey of India, HQs and Bases celebrated “International Yoga Day” on 21st June 2018. All the officers and staff had participated enthusiastically and practiced different Yoga Asanas.



### Vigilance Awareness Week

The Vigilance Awareness Week was observed by the Fishery Survey of India, Mumbai Headquarters from 29th October – 3rd November 2018. The observance of the week commenced with a pledge by all the officers and the staff of Headquarters at 11.00 A.M. on 29/10/2018 in Hindi and English.



### Target and Achievements of Survey vessels

During the period 2017-18 and 2018-19 ( till October 2018), the survey vessels collectively had fishing days 654 and 522 respectively, expending a total fishing efforts of 1432 hrs and 1406 hrs and operated 137870 hooks and 77984 hooks respectively.

Expenditure (2017- 18 and till November 2018)

(Rs. In Lakh)

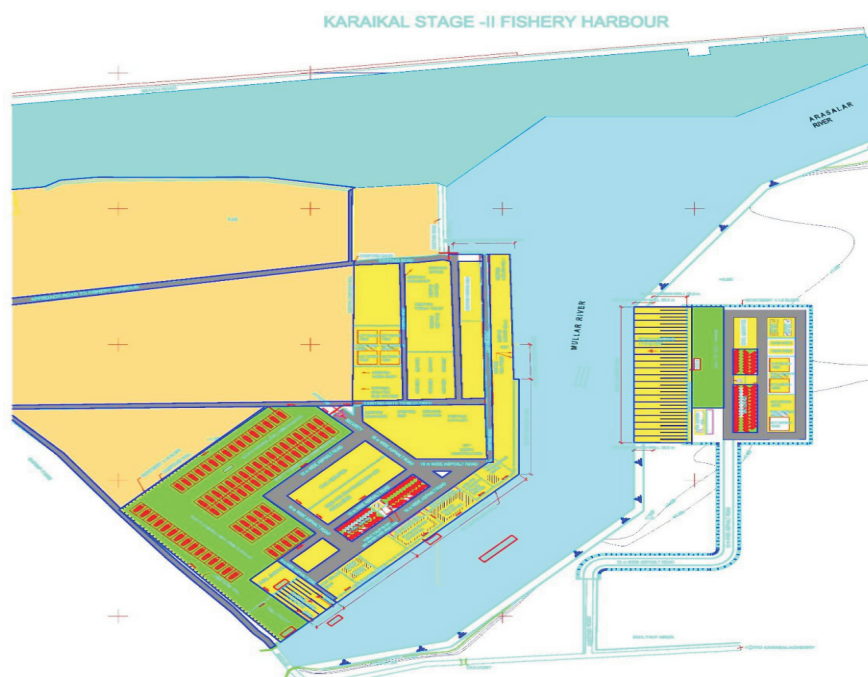
Particulars	2017-18	2018-19 (till November 2018)
Revenue (2405)	4882.65	3923.01
Capital (4405)	223.20	2.04

### 5.5.5 Central Institute of Coastal Engineering for Fishery (CICEF), Bangalore

**5.5.5.1** The Central Institute of Coastal Engineering for Fishery (CICEF), was established in January 1968 under technical and manpower assistance from the Food and Agriculture Organisation (FAO) of the United Nations Development Programme (UNDP). The main objectives of establishing this Institute were to identify potential fishery harbour sites existing all along the coastline of the country for the development of fishery harbours, to undertake engineering and economic investigations for the selected fishery harbour site and prepare Techno-Economic Feasibility Reports (TEFR) for the development of Fishery Harbours and Fish Landing Centres, Brackish water shrimp farms and Hatchery projects.

**5.5.5.2** The Institute, till end of December 2018 has carried out investigations at 97 sites and prepared project reports for 103 sites for the development of Fishery Harbours/Fish Landing Centres. This Institute has also reconnoitred about 66,200 hectares of brackish water area and engineering investigations were carried out over 15,600 hectares in all the Maritime States and Union Territories for the development of aquaculture farms.

**5.5.5.3** During 2018-19, till the end of December 2018, the Institute had issued six number of TEFRs viz. UppundaMadikal fishery harbour in Karnataka, Karaikal fishery harbour stage II in Puducherry, Periyakalapet, Nallavadu & Arikemedu fish landing centres in Puducherry and Upgradation of Thengaithittu fishery harbour in Puducherry.



**5.5.5.4** During 2017-18, Rs. 355.52 lakh was incurred by CICEF on Non Plan, while Rs. 313.20 lakh was incurred during 2018- 19 (till December end). There is no allocation of funds under Plan for the Institute during 2017-18 as well as for 2018-19.

### 5.5.6 Coastal Aquaculture Authority (CAA)

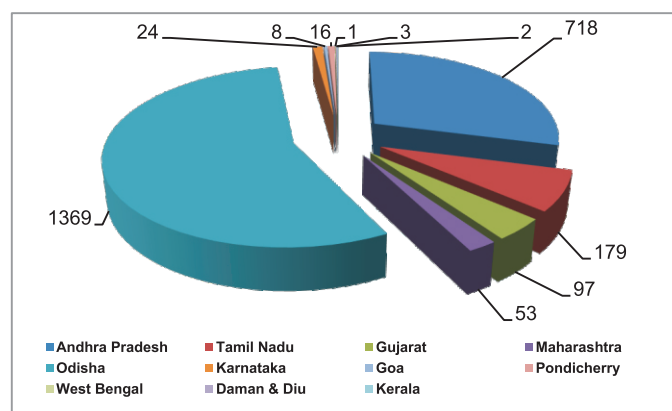
**5.5.6.1.** Coastal Aquaculture Authority was established under the Coastal Aquaculture Authority Act, 2005 for regulating activities connected with coastal aquaculture and ensures that responsible aquaculture does not cause any detriment to the coastal environment and to protect the livelihood of various stakeholders living in the coastal area.

The aims and objectives of the authority are to regulate 'coastal aquaculture' activities in the areas notified by the Central Government as 'coastal areas' and for matters associated therewith. The authority is empowered to make regulations for the construction, operation and registration of aquaculture hatchery and farms in coastal areas, inspection of farms and hatcheries of *Litopenaeus vannamei* to ascertain their environmental impact, removal or demolition of coastal aquaculture farms which cause pollution, fixing standards for all coastal aquaculture inputs, viz., seed, feed, growth supplements, chemicals, etc., used and management of shrimp aquaculture quarantine facility. Also in addition to the registration of farms and hatcheries, registration with CAA to produce seed and farming of other cultivable species including shrimps, crabs, molluscs, fishes, etc., in the country within the notified area with the Coastal Aquaculture Authority as per the Act and Rules is mandatory. Also CAA organizes awareness camps and publicity through print media, newspapers etc., to ensure sustainable coastal aquaculture development.

### Achievements of CAA from January to November, 2018

- A total of 36,597 farms with total farm area of 57,511.12ha (WSA 39,370.49 ha) received from SLCs/DLCs of States were registered since inception to till November, 2018. Out of this total 1,813 farms with total farm area of 2238.12ha (WSA-1551.49ha) were registered from January to November, 2018.
- Amongst the 36,597 nos. of farms comprising of *P. monodon* and *L. vannamei* have registered since 2007 to November, 2018 in various coastal States. Since January to November, 2018, 1813 number of farms were registered comprising of *L. vannamei* and *P. monodon* of 1277 & 583 nos respectively.
- A total of 2,470 (containing 4521 existing registered farms) Letter of permissions (LoPs) with total farm area of 12,320.85 ha (WSA 8,297.85ha) were issued since inception (August-2009) to November, 2018. During January to November 2018, 878 Letter of Permissions for 880 farms with total farm area of 1305.89ha (WSA 874.58ha) were issued.

#### No of farms permitted for SPF *L. vannamei* culture



- Since inception till date of CAA, 4521 farms (2470 LoPs) with water spread area of 8,440 ha were approved for culture of SPF *L. vannamei*. Cluster farming system of *L. vannamei*, introduced by CAA, facilitated the farmers having small farm holdings also to take up



culture with common ETS and biosecurity measures. Out of the 2,470 LoPs issued by CAA till November 2018, 571 clusters have been permitted so far.

- Renewal of registration of 6254 farms with total farm area of 11,493.12 ha (WSA 7969.83 ha) were done from 2013 till November, 2018. During January to November, 2018, 854 farms with total farm area of 1416.70 ha (WSA 1021.56 ha) were renewed.
- A total of 306 SPF *L. vannamei* hatcheries and 82 Nauplii Rearing Centers (NRC) spread all over the coastal States with a production capacity of 37,857 million seeds (including NRC) were approved from 2009 till November-2018. A total of 7,67,400 no of *L. vannamei* broodstock were permitted from short listed suppliers and so far, during Jan-Nov 2018, 1,68,620 number of broodstock has been imported.
- During January to November 2018, CAA team monitored 741 numbers of *L. vannamei* farms (Andhra Pradesh 307, Tamil Nadu 143, Odisha 93, Gujarat 66, Karnataka 76, Maharashtra 35 and Kerala 21) for adoption as per CAA regulations.
- CAA also registered all coastal aquaculture inputs viz. feed, growth supplements and chemicals/ medicines for antibiotic free for the maintenance of the ecological and environmental balance of water bodies and the organisms reared therein and other aquatic life. Accordingly, CAA has registered 1,922 numbers of inputs in eight categories during the year.
- Swachhta Awareness Programmes were conducted among farmers on 4th June, 2018 at Brahmagiri Mandal, 5th June, at Gop Mandal and on 6th June, 2018 at Ashtaranga Mandal of Puri district.
- As per the direction of Ministry of Agriculture and Farmers Welfare, "Swachhata

Hi Sewa" was conducted in CAA office during the month of September, 2017. In this programme activity such as cleaning of premises, weeding of unwanted records and sensitization about "Shramdaan" of staff of CAA were carried out. Cleanliness drive was conducted in the premises of CAA on October 1, 2018 to commemorate the 149th birth anniversary of Mahatma Gandhi.

- Coastal Aquaculture Authority observed Vigilance Awareness Week from 29th October, 2018 to 3rd November, 2018. As part of Vigilance Awareness Week, CAA officials have taken the Integrity pledge on 30th October, 2018, a workshop was conducted for the staff on Policies & Procedures of CAA and on preventive vigilance measures by the employees and stakeholders. Workshop was followed by quiz on issues relating anti corruption.
- CAA had celebrated the Hindi Week from 12th September, 2018 to 14th September, 2018 wherein the usage of Hindi as official language was emphasized and competitions were conducted to propagate the usage of Hindi in day to day official work. Also a guest lecturer was organized by inviting to deliver a speech highlighting the importance of Hindi in official language among officers and staff.
- CAA had participated in six exhibitions organized by various organizations. Posters/charts, banners and blowups depicting the objectives, functions and activities of CAA, Swachh Aquaculture concepts highlighting the mandate, functions and also Good Aquaculture Practices(GAPs) to be adopted by the shrimp farmers/ hatchery operators including awareness on abuse of antibiotics, chemicals and drugs in aquaculture, guidelines and bio-security requirements for SPF *L. vannamei* seed production and farming were displayed in the

stall for the benefit of the farmers and hatchery operators.

## **5.6 Issuance of Biometric Identity cards to Marine Fishers**

**5.6.1** In the backdrop of the terrorist attacks in Mumbai on 26th November, 2008, the Government of India felt it necessary to issue Biometric Identity Cards to marine fishers involved in fishing and allied activities. Accordingly a "Central Sector Scheme (CSS) on Issuance of Biometric ID Cards to Marine Fishermen" at a total cost of ₹72 crore was launched by the Department on 11th December, 2009. The project on issuance of Biometric ID cards involves two major activities such as (a) data collection and authentication by the respective States/UTs and (b) digitization of data, capturing of biometric details of individual fisher, production and issuance of cards. Under this scheme, the Government of India provides 100% financial assistance to the Coastal States and Union Territories(UTs), besides meeting the entire cost of consultancy. Main objective of this project is to create a National Marine Fishers Database (NMFD), which could be accessed to by all authorized agencies both in the Central and coastal States/UTs. The other objectives of this project are to empower marine fishers through issuance of application oriented biometric ID card and to eliminate duplication of different cards issued by various coastal States and UTs.

**5.6.2** Out of 19,90,521 fishermen identified for issuance of biometric ID card by the Coastal State Government/UTs, biometric enrolment in respect of 19,74,098 (99%) fishermen have been completed. The consortium has produced and supplied a total of 18,68,905 (94.67%) ID Cards to the Coastal States/UTs for distribution to the fishermen and out of which

18,37,016 (98.29%) cards have been distributed to fishers by the State Governments/UTs.

## **5.7 National Surveillance Programme for Aquatic Animal Diseases (NSPAAD)**

**5.7.1** The National Surveillance Programme for Aquatic Animal Diseases (NSPAAD) was initiated in April, 2013 for the purpose of monitoring and control of spread of diseases of national and international concern, which has become a primary requirement for effective health management and ultimately for sustainable aquaculture. This programme is also aimed at providing scientifically accurate and cost-effective information for assessing and managing risks of pathogen transfer associated with trade in aquatic animals and improve production efficiency. The other objective of the Programme is rapid detection of new and exotic infectious diseases through advanced diagnostic techniques. It would also help in certifying freedom from diseases of concern within a defined geographical area or a specific population and give boost to our aquatic animal exports. Initially, the first phase of the Programme is being implemented to cover 16 selected States and 2 Union Territories of aquaculture importance for five years with financial assistance through National Fisheries Development Board (NFDB). The Programme is being implemented in a network mode involving ICAR Fishery Institutes, Colleges of Fisheries, State Fisheries Departments and other relevant collaborating partners. The programme has been extended for implementation till September, 2019.

## **5.7.2 Directorate of Aquatic Animal Health and Quarantine (DAAHQ)**

Based on the recommendation of National Farmers' Commission to strengthen the bio-security in livestock and marine sectors, a new sub-component of setting up Aquatic Animal

Quarantine Units and Disease Diagnostic Laboratories was introduced under the component of Directorate of Animal Health of the Central Sector Scheme on Animal Quarantine and Certification Services in XI Plan. Under this sub-component, it was initially envisaged to set up one Aquatic Animal Quarantine Unit each on the East Coast (Chennai) and West Coast (Mumbai) with a coordinating unit at Head Quarter in New Delhi. It was also proposed to establish Disease Diagnostic Laboratory as an integral part of each Aquatic Animal Quarantine Unit with necessary staff and equipment. The said set up is now proposed to be established as the Directorate of Aquatic Animal Health & Quarantine (DAAHQ) in Fisheries Division of the DADF under the Central scheme on Blue Revolution. DAAHQ has been included as a sub component of 'Assistance to Fisheries Institutes' component under the Blue Revolution Scheme.

## **5.8 International Cooperation in Fisheries**

### **5.8.1 International/Regional Meetings**

**5.8.1.1** India is associated with various international and regional bodies dealing with fisheries such as Food and Agriculture Organisation (FAO) of the United Nations and Indian Ocean Tuna Commission (IOTC).

**5.8.1.2** Joint Secretary (Fisheries) represented India at 35th Session of Asia Pacific Fishery Commission (APFIC) held during 11-13 May, 2018 at Cebu, Phillippines which followed by the 7th APFIC Regional Consultative Forum Meeting attended by other Officers during 7-9 May, 2018 at the same venue.

**5.8.1.3** Indian delegation led by Joint Secretary (Fisheries) participated in the 22nd Session of

Indian Ocean Tuna Commission (IOTC) held during 21- 25th May, 2018 in Bangkok, Thailand.

**5.8.1.4** A delegation led by Secretary (ADF) attended the 33rd Session of the Committee on Fisheries of FAO held in Rome, Italy during 9-13 July 2018.

**5.8.1.5** DADF officials attended various meetings of Negotiating Groups on Rules (NGR) on Fisheries Subsidies at WTO, Geneva.

**5.8.1.6** A Regional initiative of the Bay of Bengal Programme-Inter-governmental Organization (BOBP-IGO) is hosted by the Government of India. BOBP-IGO is mandated to enhance cooperation among member countries, other countries and organizations in the region and provide technical and management advisory services for sustainable coastal fisheries development and management in the Bay of Bengal region.

**5.8.1.7** DADF in association with BOBP-IGO organised a two day National Workshop in Chennai during 23-24th April, 2018 for developing National Plan of Action to prevent deter and eliminate IUU fishing (NPOA-IUU).

**5.8.1.8** DADF has agreed to the implementation of the Second Phase of Bay of Bengal Large Marine Ecosystem (BOBLME) Programme. Fisheries issues are also actively debated in other Regional Forums such as South Asian Association for Regional Cooperation (SAARC), Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), and Indian Ocean Rim Association (IORA) etc. of which India is a member.

### **5.8.2 Bilateral cooperation in the field of Fisheries**



**5.8.2.1** India has entered into Memoranda of Understanding (MoU) with a number of countries for bilateral cooperation in fisheries sector.

**5.8.2.2** The a Joint Committee on Marine Fisheries was constituted under the Memorandum of Understanding (MoU) on cooperation between India and Morocco vide this Ministry's O.M of even number dated 25th April, 2014. The first meeting of the said Joint

Committee was held on 2nd April, 2018 in New Delhi under co-Chairmanship of Joint Secretary (Fisheries).

**5.8.2.3** The fourth JWG meeting between India and Bangladesh on Cooperation in the field of Fisheries was held on 4th -5th June, 2018 in New Delhi under co-Chairmanship of Joint Secretary (Fisheries). A number of issues of mutual interest were discussed in the said meeting.

## **CHAPTER 6**

# **TRADE MATTERS**





## TRADE MATTERS

### 6.1 Introduction

**6.1.1** After the removal of Quantitative Restrictions (QRs) on various livestock products, the Department amended the Livestock Importation Act, 1898 bringing all the livestock products under its purview for the purpose of regulating their import. Accordingly, Notifications No. 655(E) dated, 7th July, 2001 for livestock products, No. 1043(E) dated 16.10.2001 for fishery products and No. 1175(E) dated 27.11.2001 for Grand Parent stock of poultry had been issued making it mandatory to import livestock products against Sanitary Import Permit (SIP). On 28.03.2008 vide Notification No. 794 (E), the Department had further amended the Notification No. 655(E) dated, 7.07.2001 whereby it had categorized the livestock products requiring Sanitary Import Permit (SIP), the products that may be cleared on the basis of No Objection from the Animal Quarantine and Certification Services and the products which require neither SIP nor No objection.

**6.1.2** In the year 2014, by supersession the principal notification S.O. 655(E) dated 7.07.2001, a consolidated notification S.O. 2666(E) dated 16.10.2014 has been issued listing out the live-stock products under Section 2(d) and procedure for import of live-stock products under Section 3A of Live-Stock Importation Act 1898. The SIP is issued after conducting a risk analysis on the basis of disease situation of the exporting country vis-a-vis disease situation of this country.

**6.1.3** Further, notifications had also been issued vide S.O. 1495(E) and 1496(E) dated 10th

June, 2014 under Livestock Importation Act, 1898 wherein the Department has laid down the import and quarantine procedure of live animals as per Section 3 and the definition of "Live-Stock" has been further extended to number of animals as per Section 2 (d) of Live-stock Importation Act., 1898.

**6.1.4** Procedure for Import: The Department has constituted a Committee on Risk Analysis under the Chairmanship of Joint Secretary (Trade) with all the Joint Secretaries as its members to consider the applications received for issuance of SIP to import various livestock products. After necessary amendment in the notification S.O. 2666 (E) dated 16.10.2014, the Department has launched the website, <https://sip.nic.in>, for online submission of SIP applications and issuance of Sanitary Import Permit to various firms/ Organizations engaged in activities of import of livestock products. The procedure for submission of on-line SIP application along with the relevant information regarding sanitary requirements is also available on Department's website [www.dahd.nic.in](http://www.dahd.nic.in). The SIP applications received are examined and a risk analysis is undertaken by the technical experts of the Department on the basis of scientific evidence and OIE regulations. The recommendations of the technical experts are considered by the Risk Analysis Committee for either rejecting the application or issuance of SIP. Aggrieved applicants can seek a review of the decision of the Risk Analysis Committee through filing a review / representation addressed to Joint Secretary (Trade). The meeting of the Committee is held at twice a week. 91 meetings

of the Committee have been held till March 2019. The Trade Unit has issued 4706 Sanitary Import Permits till March 2019 to various firms/organizations to enable them to import various livestock products, including Fisheries products.

**6.1.5** As a Part of Flagship programme, “Ease of Doing Business”, 5 new additional entry ports were notified and existing entry ports were also designated for import of livestock products.

**6.1.6** This Department also processes the proposals for import / export / manufacturing/marketing of livestock and livestock related commodities including vaccines, drugs & biological received from various State Governments /firms/organizations. The views of the Department on these proposals are

communicated to the Directorate General of Foreign Trade (DGFT) / Drugs Controller of India (DCI) for issuance of necessary import license in favour of concerned State Governments/firms/ Organizations after considering the same by a Committee on Trade & Investment Matters. The Committee on Trade & Investment Matters also meets under the Chairmanship of Joint Secretary (Trade) with all the Joint Secretaries as its members.

**6.1.7** The meeting of the said committee is held twice in a week. 91 meetings of the Committee were held till March 2019 and 248 nos. of No Objection Certificates were issued in favour of various firms/Organizations as well as to various State Governments till March, 2019.

## **CHAPTER 7**

# **SCHEDULED CASTES SUB-PLAN (SCSP) AND TRIBAL SUB-PLAN (TSP)**





## SCHEDULED CASTES SUB-PLAN (SCSP) AND TRIBAL SUB-PLAN (TSP)

**7.1** The Department is implementing various Schemes, mainly aimed at strengthening the infrastructure of the State Governments for the development of animal husbandry, dairying & fisheries sectors. Most of the schemes are not directly beneficiary-oriented. A large population of the country belonging to the Scheduled Castes, Scheduled Tribes, other weaker sections of the society and women are engaged in activities in the livestock and fisheries sectors. As a corollary, the various schemes implemented by the Department benefit these sections of the society. However, the Department is not maintaining a record of people belonging to Scheduled Castes, Scheduled Tribes and women benefiting from these schemes. Keeping in view the nature of the schemes, the State Governments/Implementing Agencies are also not maintaining such records.

**7.2** As per the guidelines issued by the Planning Commission vide D.O. letter No.N-11016/12(1)/ 2009-PC dated 15.12.2010 to earmark 16.2% of funds under Scheduled

Castes Sub Plan (SCSP), the Department has earmarked Rs. 205.12 crore in 2016-17 at RE stage under different schemes/programmes under SCSP component. Against this, Rs. 152.59 crore was incurred under different schemes in 2016-17. In the financial year 2017-18, the Department earmarked Rs. 329.30 crore, out of which Rs. 309.88 crore was incurred under different schemes/programmes under SCSP component. For the current financial year (2018-19), the Department has earmarked Rs. 503.09 crore at RE Stage, out of which expenditure of Rs. 485.70 crore has been incurred (upto 31.03.2019) under different schemes/programmes under SCSP component.

**7.3** The Department had been exempted for earmarking of funds under Tribal Sub Plan (TSP) upto 2017-18. From 2018-19, 8.60% has been fixed under TSP. Under different schemes/programmes under TSP component, the Department has earmarked Rs. 261.60 crore at RE stage in 2018-19, out of which Rs. 250.98 crore (as on 31.03.2019) has been incurred.



## **CHAPTER 8**

# **EMPOWERMENT OF WOMEN**





## EMPOWERMENT OF WOMEN

### 8.1 Women in Animal Husbandry, Dairying & Fisheries Sector.

**8.1.1** The Department does not have any specific scheme designated for empowerment of women. However, the Department has always emphasized on providing benefits to women engaged in animal husbandry, dairying & fisheries.

**8.1.2** In the Animal Husbandry sector, men and women work hand in hand. Feeding the animals, milking of animals etc. mostly performed by women. However, role of both men and women are complementary in the field of animal husbandry and it is not possible to segregate the functions into specific grouping.

**8.1.3** Women have been at the fore front of dairy cooperative movement, which was initially carried under the Operation Flood Programme and later also under the Integrated Dairy Development Programme implemented by the Government.

**8.1.4** In the poultry sector, the rural backyard poultry is an income supplementing scheme mostly implemented by women, priority in training is being given to women.

**8.1.5** Similarly, in the scheme for conservation of breeds, the conservation of sheep, goat and small ruminants are oriented in such a way that women are being identified to take up such schemes.

**8.1.6** Women are actively involved in allied fisheries activities like fish seed collection, fishing of juvenile fishes, collection of mussels, edible oysters, sea weeds, fish marketing, fish

processing and product development etc. Training and micro finance are provided to encourage and organizing them into groups and capacity building which are the thrust areas for enhancing their involvement and participation in the fishery sector.

**8.1.7** Schemes/Programmes implemented by the Department have been beneficial to women. All the States/Union Territories have been requested to maintain record in this regard.

**8.1.8** A Gender Budget Cell has been set up in the Department with the objective of influencing and effecting a change in the Ministry's policies, programmes in a way that could tackle gender imbalances, promote gender equality and development of women. The Cell is headed by Joint Secretary (PC) with six members. The Department has not earmarked any specific funds for women component, However, it has been advising States/Implementing Agencies for utilizing around 30% of allocated funds towards women beneficiaries under the existing Centrally Sponsored/Central Sector schemes being implemented by the Department. The Gender Budget Cell has identified the following schemes under which funds are allocated towards women beneficiary:

- Dairy Entrepreneurship Development Scheme (DEDS)
- National Livestock Mission (NLM)
- Blue Revolution – Intergraded Development and Management of Fisheries

**8.1.9** In pursuance to the Interim Budget Announcement 2019-20, to provide sustained and focused attention towards development of the fisheries sector, a separate Department of Fisheries has been created through carving out the

Fisheries Division from the erstwhile Department of Animal Husbandry, Dairying & Fisheries. Thereafter, Department of Fisheries has created its own Gender Budget Cell.

## **CHAPTER 9**

# **INTERNATIONAL COOPERATION**





## INTERNATIONAL COOPERATION

### 9.1 Memorandum of Understanding (MoU) signed during the year 2018-19.

- A Memorandum of Understanding (MoU) for cooperation in the field of Animal Husbandry and Dairying was signed between DADF and Danish Veterinary & Food administration Denmark on 16.04.2018.
- MoU between DADF and the Deptt. for Environment, Food and Rural Affairs, Government of the United Kingdom of Great Britain and Northern Ireland for cooperation in the field of Animal Husbandry, Dairying & Fisheries signed on 17.04.2018.

### 9.2 International Membership:

Department of Animal Husbandry, Dairying and Fisheries, is a regular member (paying annual membership contribution) to the following Regional/International Organizations related to Animal Health and Fisheries:

- a) Office International des Epizooties (OIE), Paris, France.
- b) Indian Ocean Tuna Commission (IOTC), Seychelles - an organization under FAO.
- c) Animal Production and Health Commission for the Asia and the Pacific (APHCA), Bangkok, Thailand - an organization under FAO.
- d) Bay of Bengal Project/Inter Governmental Organization (BOBP-IGO) on Fisheries.
- e) International Dairy Federation (IDF), Belgium.

### 9.3 Deputation/Trainings/Workshops abroad attended by Officers

In order to mark the Indian presence and provide exposure to the Technical Experts/ Officials at important international events, 87 members in total from DADF/ Subordinate offices were deputed abroad for attending 63 Meetings/ Seminars/ Training/ Workshop etc. between 2018 and March, 2019.



# ANNEXURE





## Annexure-I

### Total Number of Livestock and Poultry During 19<sup>th</sup> Livestock Census-2012-State-wise

S. No	States/UTs	Cattle	Buffalo	Sheep	Goats	Pigs	Horses and ponies	Mules	Donkeys	Camel	Yaks	Mithun	Total Livestock	Total Poultry
1	Andhra Pradesh	9596	10623	26396	9071	394	5	1	13	0	0	0	56099	161334
2	Arunachal Pradesh	464	6	14	306	356	4	0	0	0	14	249	1413	2244
3	Assam	10308	435	518	6169	1636	14	0	1	1	0	0	19082	27216
4	Bihar	12232	7567	232	12154	650	49	25	21	9	0	0	32939	12748
5	Chhattisgarh	9815	1391	168	3225	439	3	1	1	1	0	0	15044	23102
6	Goa	57	32	0	13	44	0	0	0	0	0	0	146	292
7	Gujarat	9984	10386	1708	4959	4	18	0	39	30	0	0	27128	15006
8	Haryana	1808	6085	363	369	127	37	9	3	19	0	0	8820	42821
9	Himachal Pradesh	2149	716	805	1119	5	15	23	7	0	3	1	4844	1104
10	Jammu & Kashmir	2798	739	3389	2018	2	144	37	17	1	54	0	9201	8274
11	Jharkhand	8730	1186	583	6581	962	6	4	0	0	0	0	18053	13560
12	Karnataka	9516	3471	9584	4796	305	13	1	16	0	0	0	27702	53442
13	Kerala	1329	102	1	1246	56	0	0	1	0	0	0	2735	24282
14	Madhya Pradesh	19602	8188	309	8014	175	19	7	15	3	0	0	36333	11905
15	Maharashtra	15484	5594	2580	8435	326	37	2	29	0	0	0	32489	77795
16	Manipur	264	66	11	65	277	1	0	0	0	0	10	696	2500
17	Meghalaya	896	22	20	473	543	2	0	1	0	0	0	1958	3400
18	Mizoram	35	5	1	22	245	1	0	0	0	0	3	312	1271
19	Nagaland	235	33	4	99	504	0	1	0	0	0	35	911	2178
20	Odisha	11621	726	1581	6513	280	3	6	1	1	0	0	20733	19891
21	Punjab	2428	5160	129	327	32	33	5	3	1	0	0	8117	16794
22	Rajasthan	13324	12976	9080	21666	238	38	3	81	326	0	0	57732	8024
23	Sikkim	140	1	3	113	30	1	0	0	0	4	0	292	452
24	Tamil Nadu	8814	780	4787	8143	184	5	0	9	0	0	0	22723	117349
25	Tripura	949	11	3	611	363	0	0	0	0	0	0	1936	4273
26	Uttar Pradesh	19557	30625	1354	15586	1334	152	43	57	8	0	0	68715	18668
27	Uttarakhand	2006	988	369	1367	20	16	27	2	0	0	0	4795	4642
28	West Bengal	16514	597	1076	11506	648	4	0	1	0	1	0	30348	52838
29	A & Nicobar Islands	46	8	0	65	36	0	0	0	0	0	0	155	1165
30	Chandigarh	9	14	0	1	0	0	0	0	0	0	0	24	109
31	Dadra & Nagar Haveli	42	4	0	4	0	0	0	0	0	0	0	50	86
32	Daman & Diu	2	0	0	2	0	0	0	0	0	0	0	5	28
33	Delhi	86	162	1	30	76	3	0	1	0	0	0	360	44
34	Lakshadweep	3	0	0	47	0	0	0	0	0	0	0	50	165
35	Puducherry	60	2	2	55	1	0	0	0	0	0	0	120	209
	<b>All India</b>	<b>190904</b>	<b>108702</b>	<b>65069</b>	<b>135173</b>	<b>10294</b>	<b>625</b>	<b>196</b>	<b>319</b>	<b>400</b>	<b>77</b>	<b>298</b>	<b>512057</b>	<b>729209</b>
Note: Totals may not tally due to rounding up of figures														
0 negligible with respect to thousands/not reported														
Source: 19th Livestock Census, Department of Animal Husbandry, Dairying & Fisheries, M/O Agriculture														

## Annexure-II

## Production of Major Livestock Products – All India

Year	Milk (Million Tonnes)	Eggs (Million Nos.)	Wool (Million Kgs.)	Meat (Million Tonnes)
1950-51	17.0	1,832	27.5	-
1955-56	19.0	1,908	27.5	-
1960-61	20.0	2,881	28.7	-
1968-69	21.2	5,300	29.8	-
1973-74	23.2	7,755	30.1	-
1979-80	30.4	9,523	30.9	-
1980-81	31.6	10,060	32	-
1981-82	34.3	10,876	33.1	-
1982-83	35.8	11,454	34.5	-
1983-84	38.8	12,792	36.1	-
1984-85	41.5	14,252	38	-
1985-86	44.0	16,128	39.1	-
1986-87	46.1	17,310	40.0	-
1987-88	46.7	17,795	40.1	-
1988-89	48.4	18,980	40.8	-
1989-90	51.4	20,204	41.7	-
1990-91	53.9	21,101	41.2	-
1991-92	55.7	21,983	41.6	-
1992-93	58.0	22,929	38.8	-
1993-94	60.6	24,167	39.9	-
1994-95	63.8	25,975	40.6	-
1995-96	66.2	27,187	42.4	-
1996-97	69.1	27,496	44.4	-
1997-98	72.1	28,689	45.6	-
1998-99	75.4	29,476	46.9	1.9
1999-2000	78.3	30,447	47.9	1.9
2000-01	80.6	36,632	48.4	1.9
2001-02	84.4	38,729	49.5	1.9
2002-03	86.2	39,823	50.5	2.1
2003-04	88.1	40,403	48.5	2.1
2004-05	92.5	45,201	44.6	2.2
2005-06	97.1	46,235	44.9	2.3
2006-07	102.6	50,663	45.1	2.3
2007-08	107.9	53,583	43.9	4.0
2008-09	112.2	55,562	42.8	4.2
2009-10	116.4	60,267	43.1	4.5
2010-11	121.8	63,024	43	4.9
2011-12	127.8	66,449	44.7	5.5
2012-13	132.4	69,731	46.1	5.9
2013-14	137.7	73,438	47.9	6.2
2014-15	146.3	78,484	48.1	6.7
2015-16	155.5	82,929	43.6	7.0
2016-17	165.4	88,137	43.5	7.4
2017-18	176.3	95,217	41.5	7.7

“-“ Not received/not available

Source: State/UT Animal Husbandry Departments

## Annexure-III

### State-Wise Inland and Marine Fish Production During the period 2000-01 To 2017-18 (P)

S. No.	State/UT's	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
1	Andhra Pradesh	0.59	0.68	0.83	0.94	0.85	0.89	0.86	1.01	1.25	1.31	1.37	1.60	1.81	2.02	1.98	2.35	2.77	3.45
2	Arunachal Pradesh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	Assam	0.16	0.16	0.17	0.18	0.19	0.19	0.18	0.19	0.21	0.22	0.23	0.23	0.25	0.27	0.28	0.29	0.31	0.33
4	Bihar	0.22	0.24	0.26	0.27	0.27	0.28	0.27	0.32	0.30	0.30	0.30	0.34	0.40	0.43	0.48	0.51	0.51	0.59
5	Chhattisgarh	0.04	0.10	0.10	0.11	0.12	0.13	0.14	0.14	0.16	0.17	0.23	0.25	0.26	0.28	0.31	0.34	0.38	0.46
6	Goa	0.07	0.07	0.08	0.09	0.10	0.10	0.10	0.03	0.09	0.09	0.09	0.09	0.08	0.11	0.12	0.11	0.12	0.12
7	Gujarat	0.66	0.70	0.78	0.65	0.64	0.73	0.75	0.72	0.77	0.77	0.77	0.78	0.79	0.79	0.81	0.81	0.81	0.82
8	Haryana	0.03	0.03	0.04	0.04	0.04	0.05	0.06	0.07	0.08	0.10	0.10	0.11	0.11	0.12	0.11	0.12	0.14	0.19
9	Himachal Pradesh	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
10	Jammu & Kashmir	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
11	Jharkhand	0.04	0.10	0.05	0.08	0.02	0.03	0.03	0.07	0.08	0.07	0.07	0.09	0.10	0.10	0.11	0.12	0.15	0.19
12	Karnataka	0.33	0.25	0.27	0.26	0.25	0.30	0.29	0.30	0.36	0.42	0.53	0.55	0.53	0.56	0.62	0.58	0.56	0.60
13	Kerala	0.65	0.67	0.68	0.68	0.68	0.64	0.68	0.67	0.69	0.70	0.68	0.69	0.68	0.71	0.73	0.73	0.61	0.56
14	Madhya Pradesh	0.05	0.05	0.04	0.05	0.06	0.06	0.07	0.06	0.07	0.07	0.06	0.08	0.09	0.10	0.11	0.12	0.14	0.14
15	Maharashtra	0.53	0.54	0.51	0.55	0.55	0.58	0.60	0.56	0.52	0.55	0.60	0.58	0.59	0.60	0.61	0.58	0.66	0.61
16	Manipur	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03
17	Meghalaya	0.01	0.00	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01
18	Mizoram	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01
19	Nagaland	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
20	Odisha	0.26	0.28	0.29	0.31	0.32	0.33	0.34	0.35	0.37	0.38	0.39	0.38	0.41	0.41	0.47	0.52	0.61	0.68
21	Punjab	0.05	0.06	0.07	0.08	0.08	0.09	0.09	0.08	0.09	0.12	0.10	0.10	0.10	0.10	0.11	0.12	0.11	0.14
22	Rajasthan	0.01	0.01	0.03	0.01	0.02	0.02	0.02	0.03	0.02	0.03	0.03	0.05	0.06	0.04	0.05	0.04	0.05	0.05
23	Sikkim	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	Tamil Nadu	0.48	0.49	0.47	0.47	0.46	0.46	0.54	0.56	0.53	0.58	0.61	0.61	0.62	0.62	0.70	0.71	0.67	0.71



**Source:** Director of Fisheries State Govt. / UTs Administration

## Annexure-IV

## Fish Seed Production

Year	Fish Seed (In Million Fry)
1973-74 (End of IV <sup>th</sup> Plan)	409
1978-79 (End of V <sup>th</sup> Plan)	912
1984-85 (End of VI <sup>th</sup> Plan)	5,639
<b>VII<sup>th</sup> Plan</b>	
1985-86	6,322
1986-87	7,601
1987-88	8,608
1988-89	9,325
1989-90	9,691
<b>Annual Plans</b>	
1990-91	10,332
1991-92	12,203
<b>VIII<sup>th</sup> Plan</b>	
1992-93	12,499
1993-94	14,239
1994-95	14,544
1995-96	15,007
1996-97	15,853
<b>IX<sup>th</sup> Plan</b>	
1997-98	15,904
1998-99	15,156
1999-2000	16,589
2000-01	15,608
2001-02	15,758
<b>X<sup>th</sup> Plan</b>	
2002-03	16,333

2003-04	19,231
2004-05	20,790
2005-06	22,614
2006-07	31,688
<b>XI<sup>th</sup> Plan</b>	
2007-08	24,143
2008-09	32,177
2009-10	29,313
2010-11	34,993
2011-12	36,566
<b>XII<sup>th</sup> Plan</b>	
2012-13	34,922
2013-14	41,517
2014-15	39,076
2015-16	49,560
2016-17 (P)	50,252
2017-18(P)	39261

P – Provisional

## Annexure-V

### Financial Allocation and Expenditure during 2017-18 & 2018-19 (Till 31.03.2019)

(₹ in crore)

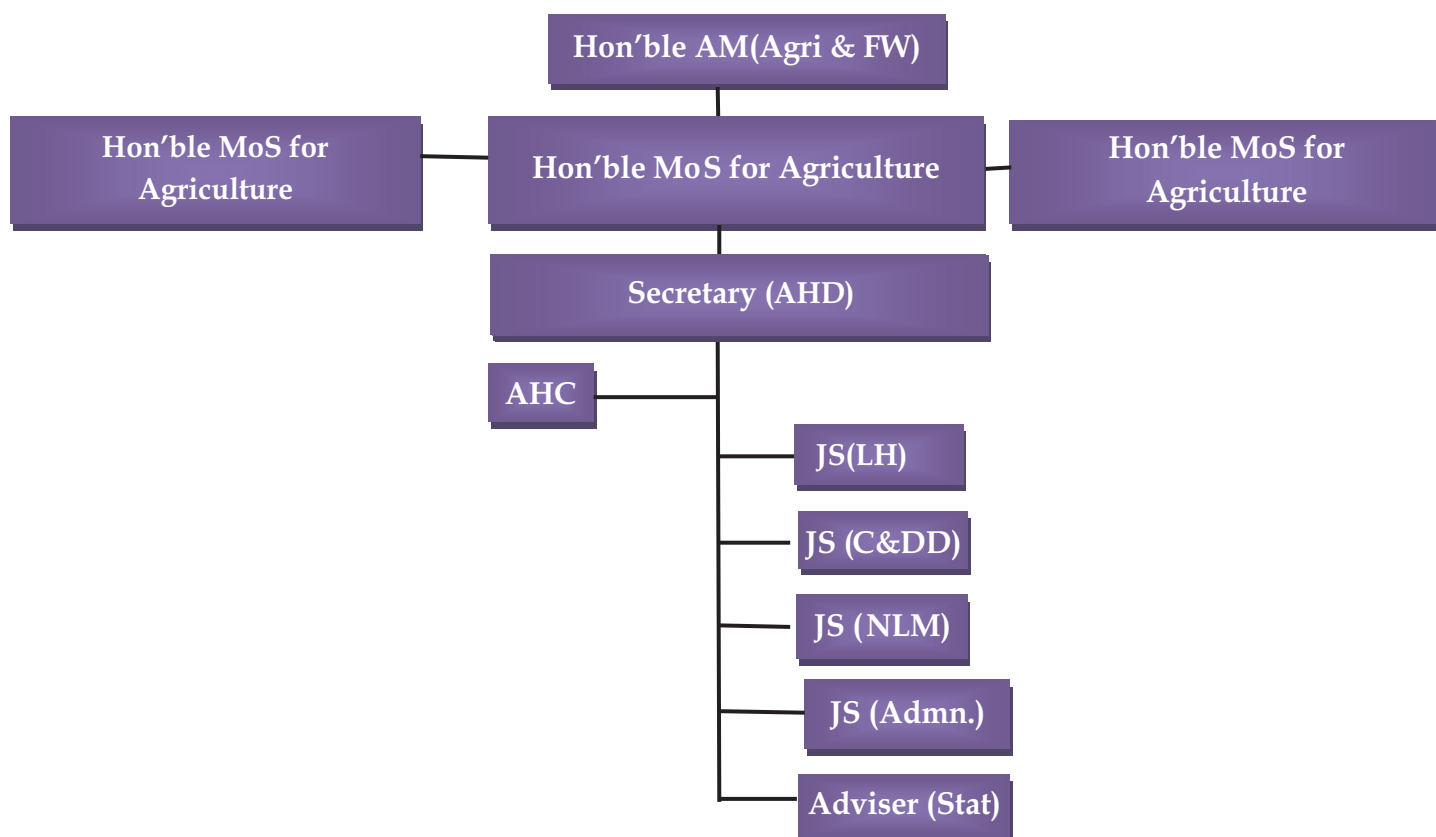
Sl.No.	Name of the Scheme	2017-18			2018-19		
		BE	RE	Expenditure	BE	RE	Expenditure (as on 31.03.2019)
1	2	3	4	5	6	7	8
	<b>Cattle &amp; Dairy Development</b>						
1	National Programme for Dairy Development	170.00	170.49	170.42	280.00	270.07	269.90
2	Dairy Entrepreneurship Development Scheme	240.00	203.02	203.02	323.00	323.00	323.00
3	National Dairy Plan 1	389.98	389.98	389.98	324.91	324.91	324.91
4	Delhi Milk Scheme	520.00	419.00	391.64	455.00	360.27	322.57
5	Rashtriya Gokul Mission	190.00	190.00	187.73	301.50	750.50	750.40
6	Breed Improvement Institutes	60.00	46.41	44.33	47.64	47.00	43.21
7	Dairy Processing Infrastructure Development Fund	0.01	37.00	0.00	37.00	15.00	10.00
8	Dairying through Cooperatives(EAP)	0.01	0.01	0.00	0.01	0.01	0.00
9	Supporting State Cooperative Dairy Federations	1.00	0.50	0.00	0.50	3.00	3.00
	<b>Sub Total</b>	<b>1571.00</b>	<b>1456.41</b>	<b>1387.12</b>	<b>1769.56</b>	<b>2093.76</b>	<b>2046.99</b>
	<b>National Livestock Mission</b>						
10	National Livestock Mission-CSS component	310.00	309.00	306.28	380.00	300.00	299.64
11	Small Livestock Institutes	85.00	45.53	42.75	45.00	50.00	44.81
12	Animal Husbandry Infrastructure Development Fund	-	-	-	0.00	1.00	0.00
	<b>Sub Total</b>	<b>395.00</b>	<b>354.53</b>	<b>349.03</b>	<b>425.00</b>	<b>351.00</b>	<b>344.45</b>
	<b>Livestock Health</b>						
13	Livestock Health & Disease Control	298.77	298.77	298.40	508.77	391.43	390.67
15	Animal Health Institute	20.00	19.85	16.06	20.75	30.00	22.88
	<b>Sub Total</b>	<b>318.77</b>	<b>318.62</b>	<b>314.46</b>	<b>529.52</b>	<b>421.43</b>	<b>413.55</b>



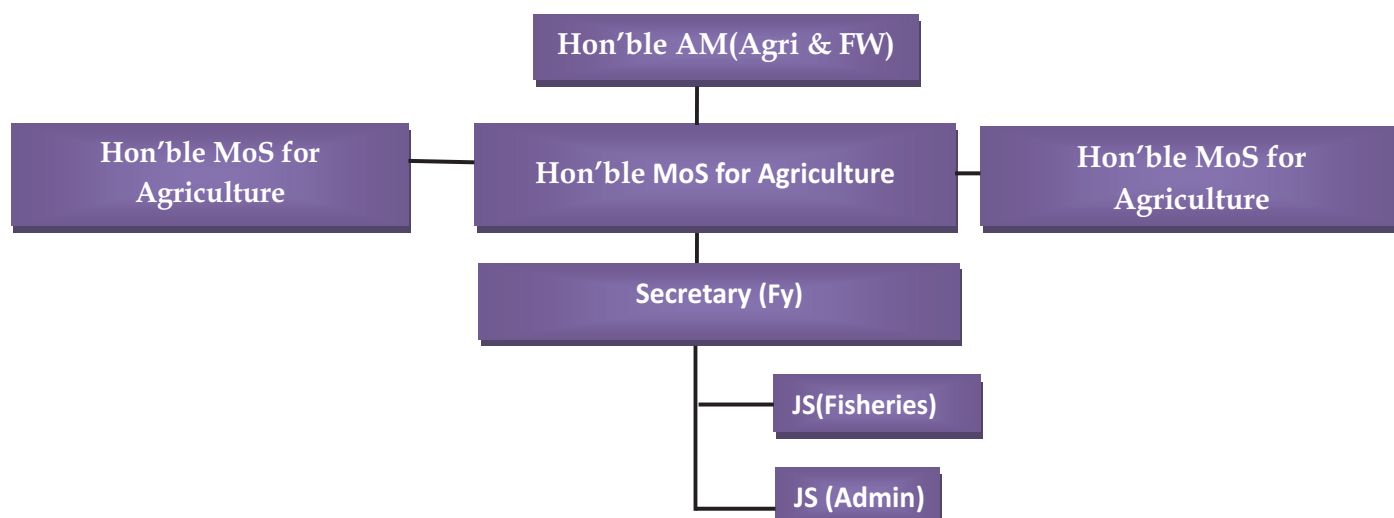
	<b>Fisheries Scheme</b>						
16	Blue Revolution	553.23	402.33	420.81	747.45	701.58	683.71
	<b>Sub Total</b>	<b>553.23</b>	<b>402.33</b>	<b>420.81</b>	<b>747.45</b>	<b>701.58</b>	<b>683.71</b>
17	Secretariat Economic Services	48.80	41.65	36.58	44.27	43.51	40.84
18	Livestock Census	34.20	34.20	17.98	64.20	52.00	50.80
19	Integrated Sample Survey						
	<b>Grand Total</b>	<b>2921</b>	<b>2607.74</b>	<b>2525.98</b>	<b>3580.00</b>	<b>3663.28</b>	<b>3580.34</b>

## Annexure-VI

### Organisational Chart and Work Allocation Among Divisions in The Department of Animal Husbandry and Dairying



### Organisational Chart and Work Allocation Among Divisions in The Department of Fisheries



## **Work Allocation of Department of Animal Husbandry and Dairying, and Department of Fisheries**

### **JOINT SECRETARY (LH)**

Livestock Health, National Institute of Animal Health, National Project on Rinderpest Surveillance & Monitoring, Animal Quarantine & Certification Services, Matters relating to UTs without Legislature, work relating to Veterinary Council of India.

### **JOINT SECRETARY (CDD)**

National Dairy Plan, Dairy Development Schemes, NPBB, Central Cattle Development Organization, Admin.IV and Estt. Matter of DMS and NDDB, and all matters related to Dairy Division and Vigilance

### **JOINT SECRETARY (Admn)**

Admn. I, Cash, General Admin, Trade and Codex Alimentarius, Plan Coordination, General Coordination, Public Grievances and Administrative Reform, International Cooperation, Official language, Information Technology.

### **JOINT SECRETARY (NLM)**

Poultry Development, Central Poultry Development Organizations, Piggery, Equine & Pack animals, Feed & Fodder, Slaughter houses, Meat and Meat Products, Central Fodder Development Organizations, Goat, Sheep Development including Admn. Work relating to Central Sheep Breeding Farms, Animal Husbandry Extension, Livestock Insurance Scheme.

### **ADVISER (STAT)**

Livestock Census, Integrated Sample Survey and all matters related to Animal Husbandry Statistics.

### **JOINT SECRETARY (Fy)**

All matters related to policy, regulation and development of marine Fisheries, Fisheries Institutes namely, FSI, CIFNET, NIFPHTT, CICEF and Coordination etc.

### **JOINT SECRETARY (Admn-Fy)**

Admn, Cash, General Admin, all matters related to policy, regulation and development of Inland Fisheries and the matters related to NFDB & CAA etc.

## Annexure-VII

## List of Subjects allocated to the Department of Animal Husbandry, Dairying & Fisheries

### PART - I

The following subjects falling within List I of the Seventh Schedule to the Constitution of India:-

1. Industries, the control of which by the Union is declared by Parliament by law to be expedient in public interest as far as these relate to Development of Livestock, fish and birds feed and dairy, poultry and fish products with the limitation that in regard to the development of industries, the functions of the Department of Animal Husbandry and Dairying (Pashupalan aur Dairy Vibhag) do not go further than the formulation of demand and fixation of targets.
2. Liaison and cooperation with international organizations in matters relating to livestock, poultry and fisheries development.
3. Livestock Census.
4. Livestock Statistics
5. Matters relating to loss of livestock due to natural calamities.
6. Regulation of Livestock importation, Animal Quarantine and Certification.
7. Fishing and fisheries (inland, marine and beyond territorial waters).
8. Fishery Survey of India, Mumbai.

### PART - II

The following subjects falling within List III of the Seventh Schedule to the Constitution of India: -

9. Profession of Veterinary Practice.
10. Prevention of the extension from one State to another of infectious or contagious diseases or pests affecting animals, fish, birds.
11. Conversion of indigenous breeds, introduction and maintenance of Central Herd Books for indigenous breeds of livestock.
12. Pattern of making assistance to various State Undertakings, Dairy Development Schemes through State agencies/ Co-operative Unions.

### PART - III

For the Union Territories the subjects mentioned in Part I and II above, so far as they exist in regard to these territories and in addition to the following subjects which fall within List II of the Seventh Schedule to the Constitution of India:-



13. Preservation, protection and improvement of stocks and prevention of diseases of animals, fish and birds, Veterinary training and practice.
14. Courts of wards.
15. Insurance of livestock, fish and birds.

#### **PART-IV**

16. Matters relating to cattle utilization and slaughter.
17. Fodder Development.

## Annexure-VIII

**List of Attached/Subordinate Offices****I. Animal Husbandry Division**

- 1) Central Cattle Breeding Farm, Dhamrod, District Surat, Gujarat.
- 2) Central Cattle Breeding Farm, Andesh Nagar, District Lakhimpur, (UP).
- 3) Central Cattle Breeding Farm, Similiguda, Sunabeda (Koraput) Odisha.
- 4) Central Cattle Breeding Farm, Suratgarh (Rajasthan).
- 5) Central Cattle Breeding Farm, Chiplima, Basantpur, District Sambalpur, (Odisha).
- 6) Central Cattle Breeding Farm, Avadi, Alamadhi (Chennai).
- 7) Central Cattle Breeding Farm, Hessarghatta, Bengaluru North.
- 8) Central Frozen Semen Production and Training Institute, Hessarghatta, Bengaluru North.
- 9) Central Herd Registration Unit, Rohtak (Haryana).
- 10) Central Herd Registration Unit, Ajmer.
- 11) Central Herd Registration Unit, Ahmedabad.
- 12) Central Herd Registration Unit, Santhapat, Ongole, District Prakasam (A.P.)
- 13) Regional Fodder station Kalyani, District Nadia, (West Bengal).
- 14) Regional Fodder station, Jammu (J&K).
- 15) Regional Fodder station, Suratgarh (Rajasthan).
- 16) Regional Fodder station Hisar (Haryana).
- 17) Regional Fodder station, Dhamrod (Gujarat).
- 18) Regional Fodder station, Avadi, Alamadhi, Chennai (Tamil Nadu).
- 19) Regional Fodder station, Hyderabad.
- 20) Regional Fodder station, Hessarghatta, Bengaluru North.
- 21) National Institute of Animal Health, Baghpat (Uttar Pradesh).
- 22) Animal Quarantine & Certification Service Station, Kapashera Village, New Delhi.
- 23) Animal Quarantine & Certification Service Station, Pallikarni Village, Chennai.
- 24) Animal Quarantine & Certification Service Station, Gopalpur, District 24 Parganas (West Bengal).
- 25) Animal Quarantine & Certification Service Station, Mumbai.
- 26) Animal Quarantine & Certification Service Station, Hyderabad.

- 27) Animal Quarantine & Certification Service Station, Bengaluru.
- 28) Central Sheep Breeding Farm, Hissar (Haryana).
- 29) Central Poultry Development Organisation, Southern Region, Hessarghatta, Bengaluru.
- 30) Central Poultry Development Organisation, Eastern Region, Bhubaneswar (Odisha).
- 31) Central Poultry Development Organisation, Western Region, Aarey Milk Colony, Mumbai.
- 32) Central Poultry Development Organisation, Northern Region, Industrial Area, Chandigarh.
- 33) Central Poultry Performance Testing Centre, Gurgaon (Haryana).

## **II Dairy Development Division**

- 34) Delhi Milk Scheme, West Patel Nagar, New Delhi.

## **III Fisheries Division**

- 35) Central Institute of Coastal Engineering For Fishery, Bengaluru
- 36) Central Institute of Fisheries, Nautical and Engineering Training, Cochin.
- 37) National Institute of Fisheries, Post Harvest Technology and Training, Cochin.
- 38) Fishery Survey of India, Mumbai.

## Annexure-IX

## State-wise number of Veterinary Institutions

Number Of Veterinary Institutions (As on 31.03.2018)					
S.No.	States/UTs	Veterinary Hospitals/Poly clinics	Veterinary Dispensaries	Veterinary Aid Centre (Stockmen Centres/ Mobile Dispensaries)	Total
1	Andhra Pradesh	335	1576	1262	3173
2	Arunachal Pradesh	16	179	308	503
3	Assam	21	435	767	1223
4	Bihar	39	1083	1595	2717
5	Chhattisgarh	321	803	403	1527
6	Goa	5	24	52	81
7	Gujarat	34	702	942	1678
8	Haryana	999	1817	21	2837
9	Himachal Pradesh	440	1770	1251	3461
10	Jammu & Kashmir	50	317	727	1094
11	Jharkhand	35	424	433	892
12	Karnataka	692	2135	1388	4715
13	Kerala	279	867	20	1166
14	Madhya Pradesh	1063	1585	65	2713
15	Maharashtra	200	1741	2906	4847
16	Manipur	56	109	34	199
17	Meghalaya	4	114	122	240
18	Mizoram	5	35	103	143
19	Nagaland	11	30	130	171
20	Odisha	541	3239	314	4094
21	Punjab	1389	1489	20	2898
22	Rajasthan	2530	198	5169	7897
23	Sikkim	18	61	54	138
24	Tamil Nadu	176	2601	931	3708
25	Telangana	108	909	1201	2218
26	Tripura	16	60	458	534
27	Uttarakhand	328	10	778	1116
28	Uttar Pradesh	2208	267	3396	5871
29	West Bengal	112	610	2687	3409
30	A & N Islands	10	13	13	36
31	Chandigarh	5	9	0	14
32	Dadra & Nagar Haveli	0	0	0	0
33	Daman & Diu	0	2	3	5
34	Delhi	50	26	0	76
35	Lakshadweep	3	6	1	10
36	Puducherry	0	17	74	9
	<b>TOTAL</b>	<b>12099</b>	<b>25263</b>	<b>27628</b>	<b>64990</b>



## Annexure-X

**Species-wise incidence of livestock diseases  
in India during 2018 (January to November, 2018)**

Sl.No	Disease	Species	January 2018 to November, 2018		
			Outbreak	Attack	Death
1	FMD	BOVINE	148	48043	199
		BUFFALO	3	11	0
		OVINE/CAPRINE	6	103	0
		SWINE	2	5	0
		<b>TOTAL</b>	<b>159</b>	<b>48162</b>	<b>199</b>
2	Haemorrhagic Septicaemia	BOVINE	26	921	117
		BUFFALO	4	186	82
		OVINE/CAPRINE	6	640	51
		<b>TOTAL</b>	<b>36</b>	<b>1747</b>	<b>250</b>
3	Black Quarter	BOVINE	6	88	53
4	Anthrax	BOVINE	19	120	115
		OVINE/CAPRINE	16	257	243
		SWINE	1	1	1
		<b>TOTAL</b>	<b>36</b>	<b>378</b>	<b>359</b>
5	Fascioliasis	BOVINE	32	3236	15
		BUFFALO	21	314	0
		OVINE/CAPRINE	22	1420	0
		<b>TOTAL</b>	<b>75</b>	<b>4970</b>	<b>15</b>
6	Enterohaemia	OVINE/CAPRINE	34	1321	468
7	Sheep and Goat Pox	OVINE/CAPRINE	28	2382	1006
8	Blue Tongue	OVINE/CAPRINE	26	2940	229
9	CCPP	OVINE/CAPRINE	5	234	95
10	Amphistomiasis	BOVINE	24	1101	1
		BUFFALO	4	29	0
		OVINE/CAPRINE	20	3244	0
		<b>TOTAL</b>	<b>48</b>	<b>4374</b>	<b>1</b>

11	Swine Fever	SWINE	19	679	184
12	Salmonellosis	AVIAN	162	185450	5243
13	Coccidiosis	BOVINE	10	9341	254
		OVINE/CAPRINE	8	166	0
		AVIAN	119	89415	2250
		<b>TOTAL</b>	<b>137</b>	<b>98922</b>	<b>2504</b>
14	Ranikhet Disease	AVIAN	32	13662	5511
15	Fowl Pox	AVIAN	41	11596	2950
16	Fowl Cholera	AVIAN	7	8219	4345
17	Marek's Disease	AVIAN	3	10116	8
18	I.B.D	AVIAN	15	12973	208
19	Coryza	AVIAN	8	196464	987
20	CRD	AVIAN	75	252125	2388
21	Canine Distemper	CANINE	3	12	0
22	Rabies	BOVINE	28	258	258
		BUFFALO	4	25	25
		OVINE/CAPRINE	4	59	59
		CANINE	10	41	41
		<b>TOTAL</b>	<b>46</b>	<b>383</b>	<b>383</b>
23	Babesiosis	BOVINE	96	2281	32
		BUFFALO	7	194	1
		<b>TOTAL</b>	<b>103</b>	<b>2475</b>	<b>33</b>
24	Mastitis	BOVINE	26	6509	0
		BUFFALO	7	10	0
		OVINE/CAPRINE	10	79	0
		<b>TOTAL</b>	<b>43</b>	<b>6598</b>	<b>0</b>

25	Trypanosomosis	BOVINE	137	2957	43
		BUFFALO	19	787	13
		Camel	1	4	2
		<b>TOTAL</b>	<b>157</b>	<b>3748</b>	<b>58</b>
26	PPR	OVINE/CAPRINE	79	4448	1434
27	Anaplasmosis	BOVINE	50	416	8
		BUFFALO	2	29	0
		<b>TOTAL</b>	<b>52</b>	<b>445</b>	<b>8</b>
28	Brucellosis	BOVINE	12	82	6
		OVINE/CAPRINE	1	2	0
		<b>TOTAL</b>	<b>13</b>	<b>84</b>	<b>6</b>
29	Glanders	EQUINE	46	200	83
30	Theileriosis	BOVINE	55	790	25
		BUFFALO	5	65	2
		<b>TOTAL</b>	<b>60</b>	<b>855</b>	<b>27</b>

## Annexure-XI

### Financial Progress under “National Programme for Dairy Development” (as on 31.03.2019)

(Rs. in lakh)

S.No.	Name of State	Approved Cost	Central Share	Total Release	Fund Utilised	Unspent
1	Andhra Pradesh	1899.03	1540.40	1333.21	1333.21	0.00
2	Arunachal Pradesh	1168.95	1104.02	372.31	372.31	0.00
3	Bihar	16443.87	12316.16	7360.06	4210.12	3149.94
4	Chhattisgarh	1086.28	915.40	398.53	288.33	110.20
5	Goa	1604.97	1308.45	791.50	43.48	748.02
6	Gujarat	9763.75	5860.01	5416.06	947.16	4468.90
7	Haryana	1291.80	900.55	813.29	274.80	538.49
8	Himachal Pradesh	3311.16	3041.50	1312.89	49.98	1262.91
9	Jammu & Kashmir	4148.29	3845.37	2509.49	970.14	1539.35
10	Jharkhand	1272.40	944.40	308.12	160.87	147.25
11	Karnataka	3073.60	3073.60	1666.80	635.80	1031.00
12	Kerala	10944.39	7814.71	5081.23	3303.56	1777.67
13	Madhya Pradesh	4557.75	3877.93	2904.05	2056.76	847.29
14	Maharashtra	427.75	368.25	184.12	0.00	184.12
15	Manipur	1017.96	918.80	348.63	343.65	4.98
16	Meghalaya	1103.46	1019.32	814.36	653.40	160.96
17	Mizoram	774.63	720.43	310.30	310.30	0.00
18	Nagaland	482.08	453.32	453.32	453.32	0.00
19	Odisha	3212.92	2787.18	2695.49	2278.51	416.98
20	Puducherry	256.75	240.15	240.15	0.00	240.15
21	Punjab	8746.30	5524.60	4783.36	4614.53	168.83
22	Rajasthan	12703.15	9720.39	7075.28	4866.13	2208.86
23	Sikkim	1404.36	1309.76	969.32	863.68	105.64
24	Tamil Nadu	8161.44	4868.03	3693.26	1752.84	1940.42
25	Telangana	1899.04	1259.86	811.75	811.75	0.00
26	Tripura	2201.58	1941.28	1337.14	0.00	1337.14
27	Uttar Pradesh	6981.75	5645.45	3957.54	581.18	3376.36
28	Uttarakhand	3815.81	3027.36	1525.55	1223.52	302.03
29	West Bengal	199.90	189.90	189.90	183.12	0.00
	<b>Grand total</b>	<b>113955.11</b>	<b>86536.57</b>	<b>59656.99</b>	<b>33582.43</b>	<b>26067.49</b>



## Annexure-XII

**Physical Progress under “National Programme for  
Dairy Development” (as on 31.03.2019)**

S.No.	Name of the State	Dairy Plant Capacity (TLPD)		Average Daily Milk Procurement (TKGPD) (000')		Functional Dairy Cooperative Societies (No.)		Farmer Member (No.s)	
		Target	Achiev	Target	Achiev	Target	Achiev	Target	Achiev
1	Andhra Pradesh	0	0	49.50	15.00	350	350	10500	8500
2	Arunachal Pradesh	15	0	8.50	0.00	79	0	2165	0
3	Bihar	201	0	740.48	364.53	3494	2210	229200	112640
4	Chhattisgarh	0	0	12.90	10.48	180	113	4500	3430
5	Goa	90		70.46		70		9970	
6	Gujarat	100	400	331.41	733.00	477		27880	
7	Haryana	0		51.25		297		13060	
8	Himachal Pradesh	100		28.16		152		8997	
9	Jammu & Kashmir	115	45	52.04	10.00	381	96	27500	9500
10	Jharkhand	0		31.00		260		7000	
11	Karnataka	0	0	159.06		2669	347	422200	12000
12	Kerala	1255	755	581.92	302.15	273	125	98325	21300
13	Madhya Pradesh	15	15	132.69	27.73	423	273	19746	6842
14	Maharashtra			124.69	0.00	90		22220	
15	Manipur	0	0	14.05	1.55	0	0	2063	263
16	Meghalaya	40		17.50		11	6	330	169
17	Mizoram	0	0	5.46	0.84	15	3	408	60
18	Nagaland	0	0	0.00	0.00	0	0	7000	2800
19	Odisha	30	90	64.54	63.15	305	330	19030	20144
20	Pondicherry	0		9.00		3		237	
21	Punjab	60	60	236.87	58.49	484	60	27418	7581
22	Rajasthan	440	19	487.63	277.67	1226	337	42726	24605
23	Sikkim	25	15	25.91	14.01	53	53	6918	1574
24	Tamil Nadu	100	100	282.00	317.22	477	360	31760	100
25	Telangana	0	0	121.87	162.38	350	150	34426	8000
26	Tripura	16		0.01		55		4800	
27	Uttar Pradesh	10	0	68.80	15.09	517	288	23580	11520
28	Uttarakhand	55	50	167.85	72.80	1126	120	46320	4645
29	West Bengal	0		5.42		95	70	5170	3532
<b>Grand total</b>		<b>2667</b>	<b>1549</b>	<b>3880.95</b>	<b>2446.09</b>	<b>13912</b>	<b>5291</b>	<b>1155449</b>	<b>259205</b>

## Annexure-XII (Contd.)

S. No.	Name of the State	Average Daily Milk Marketing (TLPD)		Bulk Milk Cooler (BMC)				Automatic Milk Collection Unit (AMCU)		Data Processor & Milk Collection Unit (DPMCU)	
		Target	Achiev	Target		Achiev		Additional Target	Achiev	Additional Target	Achiev
				No.	Capacity (KL)	No.	Capacity (KL)				
1	Andhra Pradesh	9.60	87.00					723	60		
2	Arunachal Pradesh	8.50	0.00	13	9.50						
3	Bihar	398.73	106.97	67	119.50	2	2.00	50	0	2382	69
4	Chhatisgarh	3.50	0.06	13	26.00	11	22.00				
5	Goa	49.00		57	43.50			57		70	
6	Gujarat	265.00		1116	1276.00			1083			
7	Haryana	34.71		50	39.00			120		344	
8	Himachal Pradesh	56.05						80	40		
9	Jammu & Kashmir	80.00	16.00	55	62.00	4	2.00	292	119		
10	Jharkhand	11.00		48	108.00	3	6.00	44	2	130	20
11	Karnataka	98.33	0.00					1748	295		
12	Kerala	443.26	107.16	36	156.00			555	200	214	214
13	Madhya Pradesh	60.56	9.15	136	128.00	118	90.50	777	114		
14	Maharashtra	53.43		14	14.00			200		7	
15	Manipur	10.50	1.90	35	7.00	27	5.40	48	0	0	0
16	Meghalaya	17.24		21	10.50	4	2.00	21	7		
17	Mizoram	5.42	0.84	23	11.50	4	2.00	23	4	0	0
18	Nagaland	0.00	0.00	11	10.00	8	8.50				
19	Odisha	71.77	65.84	22	62.00			430		264	
20	Pondicherry	19.00		15	14.50			15		80	
21	Punjab	129.33	12.21	216	248.00	53	80.00	689	719	450	250
22	Rajasthan	471.81	153.05	404	394.00	190	185.00	1624	1132		
23	Sikkim	26.45	10.50	41	13.40	21	7.40	146	117		
24	Tamil Nadu	143.00	0.00	259	439.00	4	20.00	1228		366	
25	Telangana	24.98	19.61	87	81.50			278		158	
26	Tripura	27.66		5	10.00			150			
27	Uttar Pradesh	38.39	2.08	200	40.00			350		210	120
28	Uttarakhand	141.28	79.19	2	2.00	1	1.00	0	0	1324	761
29	West Bengal	1.70		4	2.00	4	2.00	100	100		
	<b>Grand total</b>	<b>2700.21</b>	<b>671.57</b>	<b>2950</b>	<b>3326.90</b>	<b>454</b>	<b>435.80</b>	<b>10831</b>	<b>2909</b>	<b>5999</b>	<b>1434</b>

## Annexure-XIII

**State wise and Year wise details of Units and Back ended capital subsidy  
provided under Dairy Entrepreneurship Development Scheme by NABARD**

S.No	State	Amount in Lakhs																	
		2010-11		2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2018-19		State-wise	
		Units	Amount	Units	Amount	Units	Amount	Units	Amount	Units	Amount	Units	Amount	Units	Amount	Units	Amount	Grand Total (since)	
																			Amount
1	Andaman and Nicobar	0	0.00	1	1.25	0	0.00	11	6.04	9	2.93	8	4.54	16	2.48	8	2.00	76	22.73
2	Andhra Pradesh	105	120.89	6788	1494.26	6002	1519.38	40679	11205.80	9108	2844.14	2607	989.83	4121	1582.12	2660	1810.51	83604	26142.89
3	Bihar	0	0.00	60	56.49	1658	530.14	5842	2227.81	2790	1186.98	0	0.00	1326	643.94	666	311.30	13590	5444.27
4	Chhattisgarh	0	0.00	61	28.83	127	73.58	432	385.99	264	188.78	463	342.76	178	186.22	59	38.81	1698	1289.84
5	Delhi	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
6	Goa	0	0.00	0	0.00	0	0.00	1	4.29	6	15.26	0	0.00	0	0.00	1	0.88	8	20.43
7	Gujarat	195	78.12	740	429.75	4274	1298.01	11324	4886.90	3970	2310.13	743	504.61	2664	1973.73	1200	1890.75	31034	16452.62
8	Haryana	0	0.00	150	87.45	883	384.15	2706	1402.47	647	435.13	187	145.95	294	150.55	579	405.88	5754	3256.32
9	Himachal Pradesh	396	205.62	2079	1093.13	1128	627.24	1855	1007.25	270	187.64	374	286.19	234	198.02	284	266.41	7257	4521.13
10	Jammu & Kashmir	514	196.81	2097	824.39	1832	746.21	1423	660.54	572	281.03	320	144.86	365	211.21	1042	622.05	8888	4135.86
11	Jharkhand	0	0.00	16	11.75	61	35.19	31	27.67	22	20.55	0	0.00	15	14.29	327	336.85	612	547.48
12	Karnataka	2	2.45	1387	362.29	1689	458.58	7160	2968.43	2459	1086.14	439	224.58	964	423.79	2759	1219.51	18928	7840.80
13	Kerala	0	0.00	494	200.89	1543	509.63	4965	1578.36	2583	954.56	88	46.05	839	442.08	723	380.98	13403	5280.14
14	Madhya Pradesh	52	34.52	605	435.08	384	295.58	1367	1295.73	624	430.06	21	37.54	505	494.17	2214	1032.06	7256	4874.44
15	Maharashtra	51	23.78	3193	1631.31	4642	1831.61	2753	1387.61	29	647.45	4532	2342.17	431	385.07	3826	1804.84	25513	13179.79
16	Odisha	0	0.00	148	31.10	927	243.01	3273	938.47	524	192.15	175	51.33	192	92.89	848	364.46	7057	2297.01
17	Punjab	0	0.00	355	332.80	704	585.82	1535	1236.84	1379	811.22	674	482.46	756	559.58	1876	1149.23	8957	6269.11
18	Rajasthan	61	50.21	1725	1244.88	2708	1587.74	3907	2197.36	1165	690.08	43	47.41	92	74.72	4322	2725.94	18401	10807.09
19	Tamil Nadu	267	46.07	2602	443.37	2437	477.11	25868	4187.76	11915	2076.65	2385	435.77	4098	904.42	3563	1042.93	61012	11341.85
20	Telangana*											914	305.51	265	125.55	1311	1005.70	7452	3875.11
21	Uttar Pradesh	27	12.93	1085	646.72	1077	684.29	1267	782.00	567	314.11	975	555.51	996	588.15	6983	4309.80	16687	9777.85
22	Uttarkhand	139	71.67	1918	861.84	933	465.34	3226	1587.25	1432	655.98	1349	617.46	1161	560.17	1268	709.19	13706	6674.76
23	West Bengal	0	0.00	261	112.93	297	98.92	858	330.73	277	131.93	1	0.67	229	139.14	786	544.12	3002	1534.76
	Total	1809	843.06	25765	10330.49	33306	12451.53	120483	40305.31	40612	15462.90	16298	7565.18	19741	9752.25	37305	21974.20	353895	145586.29
	N E States																		
1	Arunachal Pradesh	0	0.00	6	6.83	3	5.00	11	17.48	9	15.69	59	113.90	58	101.20	2	4	219	402.30
2	Assam	153	104.70	1385	1021.15	1317	1060.70	1616	1257.91	911	782.09	1350	1051.12	1522	1199.32	703	521.46	10305	8152.34
3	Manipur	0	0.00	16	20.00	0	0.00	0	0.00	19	19.00	29	20.23	43	36.27	206	97.79	428	239.42
4	Meghalaya	1	0.83	8	7.58	9	4.16	8	5.42	18	9.73	4	1.50	8	3.60	3	3.63	77	47.05
5	Mizoram	1	1.00	9	12.19	28	37.84	99	61.74	225	202.99	22	17.10	32	33.60	163	116.95	761	589.65

6	Nagaland	0	0.00	0	0.00	0	0.00	12	3.72	24	8.97	14	5.40	63	29.26	499	217.40	158	116.92	1104	531.46
7	Sikkim	14	19.58	2	3.82	4	5.00	29	5.00	29	11.42	64	64.69	66	50.06	472	267.54	26	25.39	1093	714.09
8	Tripura	0	0.00	128	34.76	65	15.95	60	15.95	60	32.31	103	39.16	286	127.83	151	76.23	181	109.89	1407	727.03
	Total	169	126.12	1554	1106.33	1438	1132.36	1847	1395.2382	1363	1138.748	1879	1411.01	2785	1935.16	1442	996.03	15394	11403.34		
	Union Territory																				
	Daman and Diu																				
	Puducherry																				
	Total																				
			0.00													Online applications					
	G.Total (Total A+B+ online)	1978	969.18	27319	11436.82	34744	13583.89	122330	41700.55	41975	16601.65	18177	8976.20	22526	11687.41	38846	22986.69	369389	157124.73		
* Bifurcated data is not available unit sanction in telangana is indicated in Andhra Pradesh																					
## During 2017-18 NABARD has revised the achievement (not specified as online/offline)																					
Source: National Bank for Agriculture and Rural Development (NABARD)																					
Released by GOI to NABARD																					
			2040.00		11000.00		31000.00		28430.00		15459.00				11700.00		24000.00		32300.00		176231.00



## Annexure-XIV

## Financial Progress under National Dairy Plan-I

Particulars	Amount in Rs. Crore									
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Fund Received by NDDDB from DADF till date	4.00	123.00	139.79	164.00	300.00	314.32	389.98	324.91	--	1760.00
Fund Released by PMU*	0.00	77.37	127.18	218.64	314.38	268.64	266.56	360.49	(8.16)	1625.11
Fund Utilisation excluding EIA Contribution*	0.00	3.53	85.44	197.85	358.76	299.06	183.36	312.46	--	1440.46
EIA Contribution*	0.00	0.00	19.32	40.32	83.64	49.68	25.83	102.91	--	321.69
Fund Utilisation including EIA Contribution*	0.00	3.53	104.75	238.17	442.40	348.74	209.20	415.37	--	1762.16

\* Fund Release is upto 22 May 2019 while the fund utilisation is till Mar 2019 (provisional for Jan- Mar 2019), (-ve) fund release during Apr-June 19 indicates refund of advance by EIAs.

## Annexure-XV

## Physical Progress under National Dairy Plan -I

Activity	Particulars	PIP Target till 2018-19	SPP Target till 2018-19	Actual till Mar 2019	%age Achievement till Mar 2019 as against SPP Target till 2018-19	%age Achievement till March 2019 as against EOP PIP Target
Progeny Testing Programme	HGM Male Calves Made Available for Distribution (No.)	2026	2183	2112	97%	104%
Pedigree Selection Programme	HGM Male Calves made available for distribution (No.)	501	323	248	77%	50%
<b>Sub Total</b>	<b>HGM Male Calves made available for distribution (No.)</b>	<b>2527</b>	<b>2506</b>	<b>2360</b>	<b>94%</b>	<b>93%</b>
Bull Production Through Imported Embryos	Embryos transferred (No.)		833	766	92%	--
	Male Calves born (No.)		133	88	66%	--
	Bull calves made available for distribution (No.)		106	59	56%	--
Strengthening of Semen Stations	Semen Production (million doses per annum)	100.00	121.74	88.08	72%	88%
Pilot AI Delivery Services	MAITs Deployed (No.)	2740	1330	1330	100%	49%
	Villages Covered (No.)	23800	9068	11681	129%	49%
	AI's Carried Out (Lakh) Annual	38.00	9.24	7.83	85%	20%
	AI Conception Rate (%)	45%	39%	43%	109%	96%
Ration Balancing Programme	Village Coverage (No.)	39008	34429	33311	97%	85%
	Milch Animals Coverage (No.)	2800000	2609120	2843313	109%	102%
	LRPs Inducted (No.)	29008	28202	31399	111%	108%
Fodder Development Programme	Silage Making Demonstrations (No.)	1050	2144	2256	105%	215%
	Procurement of Mowers for Demonstrations (No.)	280	674	667	99%	238%
	Biomass Bunker Silo Constructed (No.)	35	120	118	98%	337%
	Village Coverage (No.)	31900	56247	45996	82%	144%
	New / Revival Village Coverage (No.)		21502	21175	98%	--

Village Based Milk Procurement System	Additional Milk Producers Enrolled (No.)	1260000	1316526	1570813	119%	125%
	Of which, Women (No.)	462000	508210	687273	135%	149%
	Of which, Smallholders (No.)	820000	860917	1053492	122%	128%
	Additional Milk Procurement (TKgPD)		6410.03	5900.59	92%	--
	Bulk Milk Coolers (No.)		4153	3908	94%	--
	AMCU/ DPMCU (No.)		33410	27701	83%	--
Cumulative Semen Dose Production: 456.09 mn till Mar 2019 as against target of 583.04 mn doses till Mar 2019						
Cumulative AI Done: 24.79 Lakh till Mar 2019 as against target till Mar 2019 of 37.76 Lakh						

**Annexure XVI****Details of physical progress achieved and expenditure incurred and commitments made under DIDF (till 31.03.2019)****Financial outlay of approved projects (Rs. In crore)**

State	No of projects	Outlay Approved	Loan Sanctioned
Karnataka	8	1626.39	941.37
Punjab	4	318.01	254.41
Haryana	6	54.21	43.37
Maharashtra	1	74.39	59.51
Gujarat	2	976.50	780.71
Andhra Pradesh	1	97.75	78.20
<b>Total</b>	<b>22</b>	<b>3147.22</b>	<b>2157.56</b>

**Approved Physical Targets**

State	No of projects	Milk Processing Capacity (TLPD)	Value Added Products (MLPD/TLPD)	Milk Drying Capacity (MTPD)
Karnataka	8	3950	585	165
Punjab	4	1070	572.50	0
Haryana	6	0	0.50	5
Maharashtra	1	100	74	0
Gujarat	2	3500	105	100
Andhra Pradesh	1	400	200	0
<b>Total</b>	<b>22</b>	<b>9020</b>	<b>1537</b>	<b>270</b>





**ABBREVIATIONS USED**

AI	Artificial Insemination
AIC	Artificial Insemination Centre
AMF	Anhydrous Milk Fat
APEDA	Agricultural and Processed Food Products Export Development Authority
APHCA	Animal Production and Health Commission for Asia and Pacific
ASCAD	Assistance to States for Control of Animal Diseases
BE	Budget Estimate
BFDA	Brackishwater Fish Farmers Development Agency
BGC	Bovine Genital Campylobacteriosis
CAA	Coastal Aquaculture Authority
CADRAD	The Centre for Animal Disease Research and Diagnosis
CALF	Centre for Analysis and Learning in Livestock and Food
CBPP	Contagious Bovine Pleuro-pneumonia
CCBF	Central Cattle Breeding Farms
CCRF	Code of Conduct for Responsible Fisheries
CDDL	Central Disease Diagnostic Laboratory
CFF	Campylobacter Fetus Fetus
CFSPTI	Central Frozen Semen Production and Training Institute
CFV	Campylobacter Fetus Venerealis
CHRS	Central Herd Registration Scheme

CICEF	Central Institute of Coastal Engineering for Fishery
CIFNET	Central Institute of Fisheries, Nautical and Engineering Training
CMU	Central Monitoring Unit
CPDO	Central Poultry Development Organization
CPIO	Central Public Information Officer
CSBF	Central Sheep Breeding Farm
CSF	Classical Swine Fever
CSO	Central Statistical Office
CSS	Centrally Sponsored Scheme
CVE	Continuing Veterinary Education
DCGI	Drugs Controller General of India
DEDS	Dairy Entrepreneurship Development Scheme
DGFT	Directorate General of Foreign Trade
DMI	Directorate of Marketing and Inspection
DMS	Delhi Milk Scheme
EEZ	Exclusive Economic Zone
ESVHD	Establishment and Strengthening of existing Veterinary Hospitals and Dispensaries
ETT	Embryo Transfer Technology
FAO	Food and Agriculture Organization
FFDA	Fish Farmers Development Agency

FMD	Foot and Mouth Disease
FMD-CP	Foot & Mouth Disease Control Programme
FSI	Fishery Survey of India
FSU	First Stage Unit
GDP	Gross Domestic Product
GIS	Geographical Information System
GPS	Global Positioning System
HACCP	Hazard Analysis and Critical Control Point
IASRI	Indian Agricultural Statistics Research Institute
IBM	In Board Motor
IBR	Infectious Bovine Rhinotracheitis
IDDP	Intensive Dairy Development Programme
IGFRI	Indian Grassland and Fodder Research Institute
INAPH	Information Network for Animal Productivity and Health
IOTC	Indian Ocean Tuna Commission
ISO	International Organization for Standardization
ISS	Integrated Sample Survey
IUU	Illegal, Unregulated and Unreported
JD	Johne's Disease
MCS	Monitoring, Control and Surveillance
MIS	Management Information System



MLP	Major Livestock Products
MMSRT	Mobile Satellite Service Reporting Terminals
MPEDA	Marine Products Export Development Authority
MSP	Minimum Standard Protocol
NABARD	National Bank for Agriculture and Rural Development
NCVT	National Council for Vocational Training
NDDB	National Dairy Development Board
NDP	National Dairy Plan
NDRI	National Dairy Research Institute
NFDB	National Fisheries Development Board
NGC	New Generation Cooperatives
NIAH	National Institute of Animal Health
NIC	National Informatics Centre
NIFPHATT	National Institute of Fisheries, Post Harvest Technology and Training
NLDB	National Livestock Development Board
NLM	National Livestock Mission
NPBB	National Programme for Bovine Breeding
NPBB&DD	National Programme for Bovine Breeding and Dairy Development
NPCBB	National Project for Cattle and Buffalo Breeding
NPRSM	National Project on Rinderpest Surveillance and Monitoring
NSS	National Sample Survey

NSSO	National Sample Survey Office
OBM	Out Board Motor
OIE	Office International Des Epizooties
ONBS	Open Nucleus Breeding System
PED	Professional Efficiency Development
PPR	Peste des Petits Ruminants
PRI	Panchayati Raj Institution
PTP	Progeny Testing Programmes
PVCF	Poultry Venture Capital Fund
QR	Quantitative Restriction
RDDL	Regional Disease Diagnostic Laboratory
RE	Revised Estimate
RFD	Result Framework Document
RGM	Rashtriya Gokul Mission
RTI	Right to Information
SHG	Self Help Group
SIA	State Implementing Agency
SIP	Sanitary Import Permit
SIQ&CMP	Strengthening Infrastructure for Quality and Clean Milk Production
SLBTC	State Livestock Breeding and Training Centre
SLCAnGR	State Level Committee on Animal Genetic Resources

SLSMC	State Level Sanctioning and Monitoring Committee
SMP	Skimmed Milk Powder
SOP	Standard Operating Procedure
SSCC	State Semen Collection Centre
SSU	Second Stage Unit
TCD	Technical Committee of Direction for Improvement of Animal Husbandry Statistics
TCMPF	Tamil Nadu Co-operative Milk Producers Federations
TRQ	Tariff Rate Quota
TSU	Third Stage Unit
UBKV	Uttar Banga Krishi Viswa Vidyalaya
VCI	Veterinary Council of India
VKGUY	Vishesh Krishi and Gram Udyog Yojna
VMS	Vessel Monitoring System