ANIMAL HUSBANDRY, DAIRYING AND FISHERIES DEPARTMENT

ANIMAL HUSBANDRY POLICY NOTE 2018-19

DEMAND NO.6

UDUMALAI K. RADHAKRISHNAN
MINISTER FOR ANIMAL HUSBANDRY

"The goal of doubling farmers income can be achieved through an integrated approach involving allied sector activities including Horticulture, Animal Husbandry and Fisheries. This Government has taken various initiatives like Free distribution of milch cows / goats and sheep to enhance income from farms"

-Speech delivered during the 3rd Management Committee Meeting of NITI Aayog on 23.04.2017 by the Hon'ble Chief Minister of Tamil Nadu, Thiru Edappadi K. Palaniswami.

I N D E X

ANIMAL HUSBANDRY DEPARTMENT

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1. INTRODUCTION

Animal husbandry is an integral component of agriculture, supporting livelihoods of more than two-thirds of the rural population. It plays a significant role in the rural economy by providing gainful employment to a large number of small, marginal farmers and landless agricultural labourers and raising their economic status. Livestock form an important resource for the landless agricultural labourers as it is the only major asset for them.

The contribution of livestock sector to the Gross State Domestic Product (GSDP) is 5.47% and that to the Agriculture and allied activities is 45.62%. During 2006-07 the gross value of output of livestock which was

Rs.11,535.23 crore in the State increased to Rs.64,166.34 crore during 2016-17. The estimated milk production, which was 54.74 lakh Metric Tonnes (LMT) during 2005-06 in Tamil Nadu increased to 77.42 LMT during 2017-18. Likewise, the estimated egg production which was 62,225 lakh numbers during 2005-06 has increased to 1,74,161 lakh numbers during 2017-18 and the estimated meat production (including poultry meat) which was 1,18,616 MT during 2005-06 increased to 6,03,352 MT during 2017-18.

The per capita availability of milk per day increased from 231 gm to 266 gm and the per capita availability of eggs per annum has increased from 97 numbers to 220 numbers during the period between 2005-06 to 2016-17.

The Animal Husbandry Department is committed to the agenda for sustainable development adopted by the United Nations General Assembly for achieving the Sustainable Development Goals. Building on the principle of "leaving no one behind", the Department places its commitment towards a holistic approach to achieving sustainable development goals of No poverty (Goal 1,) Zero Hunger (Goal 2), Good health and well being (Goal 3), Gender equality (Goal 4), and Climate Action (Goal 13) through implementation of various programmes and policies of the Department.

Animal husbandry as an avocation is seen as the best tool to eradicate poverty, achieve food security and provide sustainability to agriculture, empower women and thus address gender bias issues, improve nutrition and promote well being of people of all ages, through adoption of environment friendly practices.

2. OBJECTIVES OF THE ANIMAL HUSBANDRY DEPARTMENT

The following are the objectives of the department:

- Upgradation of local stock of cattle and buffaloes by Artificial Insemination using exotic and cross bred semen for cattle and Murrah semen for buffaloes
- Conservation and propagation of indigenous breeds of livestock in their native tracts
- Augmenting the production potentialities of livestock and poultry and thus increasing the production of milk, egg and meat
- Providing necessary and timely modern veterinary assistance and health cover to the livestock and poultry
- Ensuring livestock health by preventing major livestock diseases through vaccination, surveillance and monitoring

- Implementing various Central and State Government schemes for the upliftment of economic status of rural poor
- Protecting human health by detection and control of major zoonotic diseases of animals
- Creating awareness among public on modern animal husbandry practices
- Conducting training on basic and latest animal husbandry practices to farmers

3. LIVESTOCK WEALTH IN TAMIL NADU

Tamil Nadu has vast resources of livestock and poultry, which play a vital role in improving the socio economic conditions of the rural people. The small, marginal farmers and landless labourers mainly depend on livestock and poultry as it provides sustainable livelihood opportunities of rural poor.

Table 1: State's Livestock and Poultry Population in the last two census

Species	**Population as per 18th Census** (in lakh Nos.)	**Population as per 19th Census** (in lakh Nos.)
Cattle	111.88	88.14
Buffalo	20.09	7.81
Sheep	79.90	47.87
Goat	92.74	81.43
Pigs	2.84	1.84
Others (Horses, Ponies and Donkeys)	0.11	0.14
Total Livestock	**307.58**	**227.23**
Total Poultry	**1,312.54**	**1,173.49**

A majority of the cattle reared by the farmers comprise of high milk yielding crossbred cattle like ***Jersey*** and ***Holstein Friesian***. Besides these, native breeds of cattle like ***Kangeyam, Umbalacheri, Alambadi, Bargur and Pulikulam and Toda buffaloes*** are reared in their respective native tracts. Among them, Kangeyam cattle are reared in Western districts viz., Dindigul, Namakkal, Erode, Coimbatore and Karur; Umbalacheri cattle in Eastern districts viz.,

Thanjavur, Thiruvarur, and Nagapattinam; Alambadi cattle in Western districts viz., Dharmapuri, Erode and Salem; Pulikulam cattle in Southern districts viz., Sivagangai, Madurai, and Virudhunagar; Bargur cattle in Erode district and Toda buffalo in The Nilgiris district. Likewise native breeds of sheep, ***Mecheri*** (Salem and Coimbatore districts), ***Ramnad White*** (Ramanathapuram district), ***Madras Red*** (Chennai, and Kancheepuram districts), ***Kilakarisal*** (Ramanathapuram, Thanjavur, and Madurai districts), ***Vembur*** (Thoothukudi district), ***Tiruchi Black*** (Tiruchirapalli, Salem, and Dharmapuri districts), ***Coimbatore*** (Coimbatore and Madurai districts), ***Katchaikatty Black*** (Madurai district), ***Chevaadu*** (Tirunelveli district) and ***Nilgiri*** (The Nilgiris district) and native goat breeds like ***Kanni Adu*** (Thoothukudi and Tirunelveli districts) and ***Kodi Adu*** (Thoothukudi and Ramanathapuram districts) are reared in Tamil Nadu.

As per the 19th quinquennial livestock census, Tamil Nadu ranks 1st in respect of Poultry, 4th in Sheep, 7th in Goats, 13th in Cattle and 14th in Buffalo population in the country.

4. ADMINISTRATIVE SET UP

The Animal Husbandry Department is headed by the Director of Animal Husbandry and Veterinary Services, from the cadre of Indian Administrative Service.

The Director is assisted by four Additional Directors, two Joint Directors, one Deputy Director and nine Assistant Directors in the Directorate on technical subjects.

One Additional Director among the four Additional Directors, one Joint Director, one Deputy Director and two Administrative Officers assist the Director in administrative matters.

Financial Controller, a Chief Accounts Officer deputed from Finance Department and Accounts

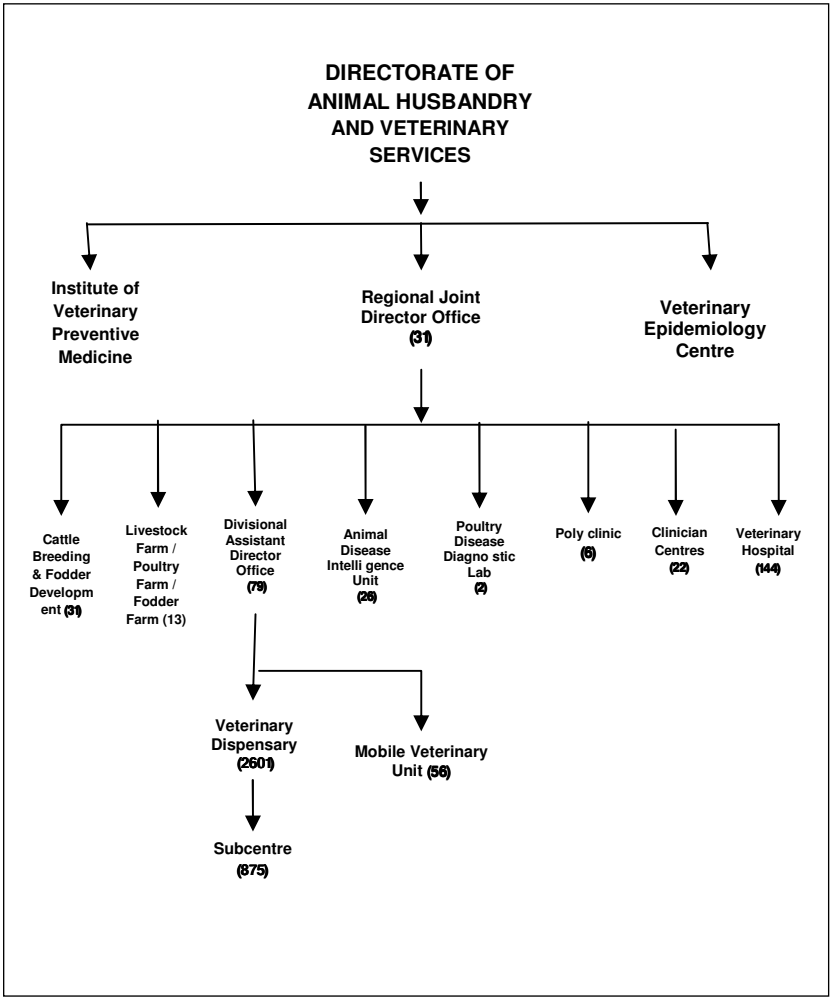
Officer deputed from Treasuries and Accounts Department, Assistant Director (Agri) from Agriculture department and Deputy Registrar from Co-operative department are working at the Directorate.

Regional Joint Directors and Deputy Directors are responsible for the activities of the Department at the District level and Assistant Directors are responsible at the Divisional level.

Institute of Veterinary Preventive Medicine (IVPM) at Ranipet, is headed by a Director in the cadre of Additional Director.

The Veterinary Epidemiological Centre (VEC), functioning from veterinary polyclinic campus, Saidapet, Chennai coordinates the work of the Animal Disease Intelligence Units (ADIUs) and Poultry Disease Diagnostic Laboratories (PDDLs) located in the Districts.

ORGANISATIONAL CHART



5. VETERINARY SERVICES

Animal Husbandry Department provides timely and effective health coverage to the livestock and poultry population of the State to augment their production and productivity. Veterinary services are provided through a vast network of veterinary institutions located across the State from remote villages to District head quarters. Veterinary Sub-centres (875) manned by para veterinarians provide minor veterinary services including first aid and breeding services at remote villages. Veterinary Dispensaries (2601) located in village panchayats are manned by Veterinary Assistant Surgeons which provide primary veterinary care to the Livestock reared by farmers in the areas around the veterinary dispensaries. Veterinary hospitals (144) a majority of which located in the block head quarters manned by senior veterinarians in the cadre of Assistant Director of animal husbandry provide secondary care to the livestock. Clinician

centres (22) a majority of which located in the district head quarters manned by senior veterinarians in the cadre of Assistant director of animal husbandry and the veterinary polyclinics (6) located at Corporations which function round the clock provide tertiary care to the livestock. Besides these, Mobile Veterinary units (56) manned by Veterinary Assistant Surgeons provide veterinary services at the doorsteps of the farmers.

Table 2: District wise veterinary institutions available

Sl. No.	District	Poly clinics	Clinician centres	Vety. Hospitals	Dispen saries	Mobile Units	Sub centres
1	Ariyalur	0	0	2	42	1	9
2	Chennai	1	0	1	0	1	4
3	Coimbatore	1	1	14	89	2	26
4	Cuddalore	0	1	5	91	1	55
5	Dharmapuri	0	1	2	73	2	12
6	Dindigul	0	1	5	100	1	67
7	Erode	0	2	6	97	3	27
8	Kancheepuram	0	2	1	99	2	40
9	Kanyakumari	0	1	2	49	2	15
10	Karur	0	1	2	66	1	18
11	Krishnagiri	0	1	2	75	1	14
12	Madurai	1	0	4	90	1	59
13	Nagapattinam	0	2	4	70	2	20
14	Namakkal	0	0	4	98	3	8

Sl. No.	District	Poly clinics	Clinician centres	Vety. Hospitals	Dispen saries	Mobile Units	Sub centres
15	Perambalur	0	0	0	36	0	4
16	Pudukottai	0	1	4	93	2	36
17	Ramanathapuram	0	0	4	55	0	14
18	Salem	1	0	7	138	6	14
19	Sivagangai	0	0	2	77	0	45
20	Thanjavur	0	2	6	101	3	30
21	Theni	0	0	3	53	1	46
22	The Nilgiris	0	1	2	27	3	9
23	Thiruppur	0	0	7	98	1	36
24	Thiruvallur	0	0	5	84	1	28
25	Thiruvannamalai	0	1	5	121	3	20
26	Thiruvarur	0	1	8	69	1	32
27	Thoothukudi	0	1	2	67	1	37
28	Tiruchirapalli	1	0	8	96	2	38
29	Tirunelveli	1	0	7	108	1	33
30	Vellore	0	1	8	118	4	26
31	Villupuram	0	1	7	148	4	23
32	Virudhunagar	0	0	5	73	0	30
TOTAL		**6**	**22**	**144**	**2601**	**56**	**875**

Table 3: Veterinary services provided during 2017-18 (in lakh)

Species	Cases Treated	Castration	Deworming
Cattle	117.40	1.28	52.42
Buffalo	8.42	0.03	5.22
Sheep	47.99	1.32	100.52
Goat	98.20	6.89	150.84
Dog & Cat	17.90	0.12	6.97
Poultry	48.60	0.01	16.39
Others	3.41	0.07	3.40
Total	**341.92**	**9.72**	**335.76**

The medicines, equipments and chemicals required for providing the above services are procured through Tamil Nadu Medical Services Corporation (TNMSC).

Table 4 : Fund allocation for medicines 2017-18

Sl. No	Name of the Scheme	Fund Allotted (Rs.in Lakhs)
1	General Medicines	2303.93
2	Intensive Health Cover	150.00
3	Equipments, Chemicals, Sutures & Surgicals	314.96
4	Mineral mixture	353.12
5	Alternate medicine (Siddha & Ayurveda)	154.88
6	Reserve Fund	117.61
	TOTAL	**3394.50**

The fund allocation for procuring medicines to the veterinary institutions based on the number and type of cases handled is as follows:

Table 5 : Institution wise fund allocation for medicines 2017-18

Sl. No	Type of Institutions	Financial ceiling (in Rs.)
1	Veterinary Dispensaries	1,04,000
2	a) Veterinary Hospital Royapuram, Ambattur and Chitlapakkam	2,53,500
	b) Other Veterinary Hospitals	1,51,000
3	a) Veterinary Clinician Centres (Cuddalore, Dharmapuri, Erode, Kancheepuram, Kumbakonam, Thanjavur, Vellore)	2,90,000
	b) Other Veterinary Clinician Centres	2,05,000
4	a) Veterinary Polyclinic, Saidapet	5,70,000
	b) Pet Clinic, Adyar	1,24,000
	c) Other Veterinary Polyclinics	4,10,000
5	a) Mobile Veterinary Unit, Saidapet	71,000
	b) Other Mobile Veterinary Units	61,000
6	Sub-Centres	19,000

6. BREEDING SERVICES

The department provides breeding services to the cattle population through all the field institutions. Artificial insemination service is provided for cattle and buffaloes at Rs.10 per insemination. A total of 49.92 lakh Artificial inseminations were performed during the year 2017-18.

Frozen semen required for artificial insemination programme is produced in three frozen semen production stations functioning from the departmental farms at Eachenkottai, Hosur and Udhagamandalam. These stations produce quality frozen semen so as to ensure better fertility and conception rate and faster genetic progress among the cattle maintained by the farmers.

The Minimum Standard Protocol for Frozen Semen Production as prescribed by Government of India is strictly adhered to. Breeding bulls of ***Jersey, Holstein Friesian, Crossbred Jersey, Crossbred Holstein Friesian, Red Sindhi, Kangeyam, Umbalacheri, Bargur, Pulikulam and Murrah breeds*** are maintained in these stations.

The Frozen Semen Production Stations under the control of the Department have produced 23.62 lakh exotic, 36.31 lakh crossbred frozen semen, 4.33 lakh indigenous frozen semen

and 3.21 lakh buffalo frozen semen during 2017-18. 2.5 lakh Pure Jersey and one lakh Murrah frozen semen straws were sold to Aavin and 4 lakh buffalo Frozen Semen Straws were sold to Telengana Livestock Development Board.

Table 6 : Frozen Semen Straws production during 2017-18

Sl. No	Frozen Semen Station	Breeds	No.of Straws prodced *(in lakh)*
1	Exotic Cattle Breeding Farm, Eachenkottai	Jersey, Jersey cross, Umbalacheri, Murrah	38.16
2	District Livestock Farm, Hosur	Jersey cross, Sindhi, Kangeyam, Pulikulam, Bargur	9.20
3	District Livestock Farm, Udhaga mandalam	Jersey, Jersey cross, Holstein Friesian, Holstein Friesian cross	20.11
Total			**67.47**

The frozen semen produced at the stations reach the field breeding centres through the Cattle Breeding and Fodder Development Units (CBFD) functioning in districts (except Chennai) headed by Deputy Directors. These Units besides

supplying frozen semen straws also distribute breeding inputs including liquid Nitrogen.

6.1 Conservation of indigenous breeds of livestock

Tamil Nadu is endowed with diverse fauna and flora which have evolved over generations to adapt to the local agro climatic and socio-economic needs of the people. Tamilnadu has the following native breeds of cattle viz. **(a) *Kangeyam*, (b) *Umbalacheri,* (c) *Alambadi*, (d) *Pulikulam* (e) *Bargur* (f) Toda Buffaloes** that have been extensively used for draught purposes over centuries. Human population explosion coupled with dwindling land for agriculture has resulted in reduced availability of feed resources. Mechanisation of agriculture and introduction of various means of transportation have reduced their utility and consequently their population. This has adversely affected the native breeds of animals that are reared under conventional methods. The need to

feed a large population coupled with the economic aspirations of the farming community lead to cross breeding which has resulted in fast genetic degradation and dilution of the native germ plasm. In order to arrest this depleting trend of native breeds, it is imperative to improve and conserve this valuable germ plasm.

The genetic and molecular charecterisation of all native breeds of cattle, buffalo, sheep and goat and dog is undertaken in collaboration with TANUVAS and the National Bureau of Animal Genetic Resources, Karnal. In an effort to conserve and preserve native breeds, the Government of Tamilnadu is implementing a policy of maintaining all the native breeds of cattle at the Government farms and propagating them at their native tracts. Ex-situ conservation is also being done wherein bulls that are true to type are maintained in the frozen semen stations and frozen semen straws are produced and distributed in the respective native tracts for artificial insemination.

A DNA repository of all the characterized breeds of cattle native to Tamilnadu is maintained at Tamil Nadu Veterinary and Animal Sciences University.

Under the conservation and development of indigenous breed of cattle, research centres for Bargur, Kangeyam and Pulikulam breeds of cattle have been established with funds sourced from Government of India.

7. DISEASE PREVENTIVE SERVICES

Various bacterial, viral, protozoal, parasitic diseases affect livestock and poultry causing huge economic loss to the farmers. Control and eradication of livestock diseases is a must, not only for profitable livestock production but also essential to make our livestock and livestock products globally acceptable.

Animal health is the backbone of livestock industry. Microbial diseases and parasitic infestation cause severe production loss and

death in livestock. Prevention and eradication of livestock diseases is not only helpful for profitable livestock production, but also essential for acceptance and improving the value of our livestock and livestock products in the global market. Adopting disease prevention measures would initially lead to control followed by eradication of livestock diseases from the livestock population.

Table 7 : Vaccination carried out during 2017-18

Name of the Disease	**Type of animals Vaccinated**	**No. of animals vaccinated (nos in Lakhs)**
Foot and Mouth Disease	Cattle, Buffalo, Sheep and Goat	192.27
Brucellosis	Heifer calves	0.029
Peste des Petits Ruminants	Goats	1.31
Blue Tongue	Sheep	0.27
Anthrax	Cattle, Buffalo, Sheep and Goat	28.45
Black Quarter	Cattle	4.49
Haemorrhagic Septicaemia	Cattle and Buffalo	0.85
Sheep Pox	Sheep	0.97
Enterotoxemia	Sheep	1.11

Name of the Disease	Type of animals Vaccinated	No. of animals vaccinated (nos in Lakhs)
Ranikhet Disease	Poultry	286.27
Fowl Pox	Poultry	0.017
Rabies	Pet animals	0.61

The above vaccinations are done at or near the farmers' door steps by the field veterinary institutions. Every year, disease forecasting is done based on the outbreak of diseases during the preceeding five years. Vaccination is being carried out before the expected onset of outbreak.

Foot and Mouth disease, a highly contagious, viral, vesicular disease of cloven-footed animals that causes heavy economic loss is controlled by implementing Foot and Mouth Disease Control Programme funded jointly by the State and Central Governments. So far, 14 rounds of FMD vaccination have been carried out in the State. The 13^{th} and 14^{th} rounds of vaccination of cattle and buffaloes were conducted

during September 2017 and March 2018 covering 93,89,082 and 93,96,768 nos. respectively.

The emphasis on Foot and Mouth Disease control will continue in 2018-19, also during which the bi-annual vaccination shall be continued.

The vaccines for diseases like PPR, Brucellosis and Blue Tongue are sourced from various Schemes of Government of India. Vaccines against economically important livestock diseases like Anthrax, Black Quarter, Haemorrhagic Septicaemia and Sheep Pox are produced in the Institute of Veterinary Preventive Medicine (IVPM), Ranipet. The funds for the same are sourced from the Centrally sponsored "Assistance to States for Control of Animal Diseases" Scheme. All the vaccinations are carried out free of cost. Besides the vaccines mentioned above, IVPM manufactures Ranikhet Disease Vaccine, Fowl Pox Vaccine and Duck Plague vaccines also.

7.1 Institute of Veterinary Preventive Medicine, Ranipet (IVPM)

Institute of Veterinary Preventive Medicine was initially established at Madras in 1932 and called as "Serum Institute". In 1942, the Institute was shifted to Coimbatore Agricultural College estate as an emergency measure due to World War II. In 1948, the Institute was shifted to the present campus of 129.5 acres at Ranipet. This is an Institute of repute and produces vaccines and biologicals for various livestock diseases.

Indian Council of Agricultural Research (ICAR) aided "All India Coordinated Research Project (AICRP) on Foot and Mouth Disease (FMD), functioning from this Institute, undertakes investigation of FMD outbreaks, virus typing and sero-monitoring of vaccinated animals under FMD Control Programme. The institute was awarded Second Prize for Best Performance by the ICAR for the year 2013.

Table 8: Biologicals produced by IVPM during 2017-18

Sl No	Name of the biologicals produced	Doses
A.	**Bacterial Vaccines (doses in lakh)**	
1	Black Quarter vaccine	6.66
2	Haemorrhagic Septicaemia	2.33
3	Enterotoxaemia	2.11
4	Anthrax spore vaccine	26.21
B.	**Viral Vaccines (doses in lakh)**	
1	Ranikhet disease vaccine 'K'	462.43
2	Ranikhet disease vaccine 'F'	8.24
3	Ranikhet disease vaccine *'La Sota'*	113.51
4	Duck Plague vaccine	125.36
C.	**Diagnostics (in ml)**	
1	Brucella Abortus Plain Antigen	770
2	Brucella Abortus Coloured Antigen	6400
3	Milk Ring Test Antigen	1780
4	SPC Antigen	1050
5	CMT Antigen	3000
D.	**Diluents (in lakh litres)**	
1	Phosphate Buffer Saline	24.00

7.2 Disease surveillance, diagnosis and control

In order to monitor the vaccination programmes and ensure that all the susceptible livestock and poultry are covered, 26 Animal Disease Intelligence Units (ADIUs), two Poultry Disease Diagnostic Laboratories (PDDLs), one Veterinary Epidemiology Centre and one Central Referral Laboratory (CRL) are functioning in the State.

7.2.1 Animal Disease Intelligence Units (ADIU)

There are exclusive ADIUs in 26 districts except in Ariyalur, Kanyakumari, Ramanathapuram, Tiruvarur, Namakkal and Chennai. These districts are covered by the ADIUs of Tiruchirapalli, Tirunelveli, Sivagangai, Nagapattinam, Salem and Kancheepuram ADIUs respectively. These units play a major role in disease forecasting, attending to outbreaks,

conducting awareness camps, distribution of vaccines and monitoring of vaccination, collection of serum samples for sero monitoring for various diseases, especially Foot and Mouth Disease (FMD), Peste-des-Petit Ruminants (PPR) etc.,

These are also responsible for monitoring the efficiency of vaccination, assess immune status, collection and testing of samples for surveillance of various diseases from simple parasitic infestations to serious zoonotic diseases like Brucellosis, Tuberculosis, Para Tuberculosis, Avian Influenza, Bovine Spongiform Encephalitis etc.,

Sophisticated instruments like haemanalyser, urine analyser, biochemical analyser etc., are available at the ADIUs. Walk- in coolers and Ice Lined Refrigerators (ILRs) for storage of biologicals and vaccines are also provided to these units for maintenance of cold chain of vaccines.

7.2.2 Poultry Disease Diagnostic Laboratory (PDDL)

To cater to the needs of farmers in areas of high poultry production, Poultry Disease Diagnostic Laboratories are functioning at Andagalurgate, Namakkal District and at Erode. They are involved in diagnosis of poultry diseases by conducting post mortem, testing of droppings, blood samples and other specimens for viral diseases such as New Castle Disease, IBD, IB, Avian Leucosis Complex, common bacterial diseases like Salmonella, E.Coli, and Parasitic Infestations. These Bio Safety Level II (BSL II) laboratories carry out preliminary screening for Avian Influenza.

7.2.3 Veterinary Epidemiology Centre (VEC)

Consequent to the announcement of the Hon'ble Minister of Animal husbandry during the Tamil Nadu State Assembly Session held on 19.08.2016, a new "Veterinary Epidemiology

Centre (VEC)" was established in Chennai in order to carry out surveillance, monitoring and forecast livestock diseases in the State. The Veterinary Epidemiology Centre is headed by the Chief Epidemiology Officer in the cadre of Joint Director of Animal Husbandry.

VEC functions to control and coordinate the disease diagnostic activities of the Animal Husbandry sector in the State undertakes investigation of disease outbreaks and provides inputs for control of livestock diseases to the ADIUs and conducts health assessment of livestock during disasters etc.

The unit coordinates with ADIUs and PDDLs in disease intelligence and risk assessment for early warning and disease prevention besides development of animal disease database / information systems to support analysis at regional and national levels.

7.2.4 Central Referral Laboratory (CRL)

Central Referral Laboratory, the apex laboratory of the State for diagnosis of livestock diseases in the department is located at IVPM, Ranipet plays a major role in disease confirmation by *Office International des Epizooties* (OIE) approved laboratory techniques and declare the outbreaks, and provides technical guidance to the Animal Disease Intelligence Units (ADIUs) / Poultry Disease Diagnostic Laboratories (PDDLs) to control livestock and poultry diseases during outbreaks. Central Referral Laboratory functions under the control of Director IVPM, Ranipet.

8. LIVESTOCK DEVELOPMENT

The department is continuously striving to improve the production and productivity of the livestock population through various measures like increasing the number of milch cattle, improving the genetic composition of the breedable population through introduction of frontier technologies like embryo transfer

technology at District Livestock Farm, Hosur, improving the infrastructure available in the department and fulfilling the diagnostic infrastructural needs, risk management and mitigation activities, fodder augmentation measures, conservation of indigenous livestock and poultry breeds / varieties, conducting outreach programmes, collaborating with research institutes like TANUVAS/ TNAU etc.

In order to address the requirement of cattle with higher genetic merit, the Department maintains 13 Farms, out of which 8 are Livestock Farms, 3 are Sheep Farms, one is a Poultry Farm and one is a Fodder Seed Production Farm. These Livestock Farms act as model units for demonstrating best practices and scientific techniques to the Livestock farmers.

8.1 CATTLE DEVELOPMENT

Tamil Nadu is home to approximately 88.14 lakh cattle and 7.80 lakh buffaloes as per the 19th quinquennial livestock census. Out of

this, 72.11% are cross bred and exotic cattle and 27.89% are indigenous cattle.

The State has a robust breeding policy that encourages rearing of Indigenous cattle in their respective native tracts, exotic cattle in hilly regions and cross bred cattle in the plains. While the indigenous cattle are being conserved by breeding the females using frozen semen straw of the same breeds, the non descript cattle are genetically upgraded by Artificial insemination using cross bred and exotic frozen semen.

Table 9 : Bovine Breeds maintained in the Departmental Farms

Sl. No	Name of the Farm	Type of animal	Breeds
1	Exotic Cattle Breeding Farm, Eachenkottai (Thanjavur District)	Cattle	Jersey, Crossbred Jersey, Umbalacheri
		Buffaloes	Murrah
2	District Livestock Farm, Hosur (Krishnagiri District)	Cattle	Crossbred Jersey, Crossbred Holstein Friesian,Red Sindhi, Kangeyam, Bargur, Pulikulam

Sl. No	Name of the Farm	Type of animal	Breeds
3	District Livestock Farm, Abisegapatti (Tirunelveli District)	Cattle	Crossbred Jersey, Sahiwal
4	District Livestock Farm, Udhagamandalam (The Nilgiris District)	Cattle	Jersey, Crossbred Jersey, Holstein Friesian, Crossbred Holstein Friesian
5	District Livestock Farm, Pudukottai (Pudukottai District)	Cattle	Crossbred Jersey
6	District Livestock Farm, Naduvur (Thanjavur District)	Cattle	Jersey, Crossbred Jersey, Crossbred Holstein Friesian
		Buffaloe	Murrah
7	District Livestock Farm, Chettinad (Sivagangai District)	Cattle	Crossbred Jersey, Crossbred Holstein Friesian, Tharparkar, Sahiwal
8	Livestock Farm, Korukkai Thiruvarur District)	Cattle	Umbalacheri

During the year 2017-18, 522 calves were born in the Department Livestock Farms and 259 calves, were sold to the livestock farmers for breeding purposes. The Departmental Farms produced 4.89 lakh litres of milk during 2017-18.

Embryo Transfer Programme is being successfully implemented so as to produce Bull

calves with High Genetic Merit which will be used as Bulls in future for Frozen Semen Production. The programme is being implemented in 12 Districts, keeping DLF, Hosur as its hub. So far, 286 calves which includes 145 males and 141 females have born through the programme. The male calves are procured from farmers at the rates fixed by the government. The farmers are allowed to retain the superior quality female calves born to their animals.

The department farms will continue to provide quality off-springs to the public by employing innovative tools like Embryo Transfer and In Vitro Fertilization with particular focus on conservation and propagation of indigenous breeds during 2018-19.

8.1.1 Scheme for Free Distribution of Milch Cows

In order to usher in a radiant second white revolution with a view to improve rural economy

and to increase the cross bred cattle population in the State, the Government of Tamil Nadu introduced the "Free distribution of Milch Cows" Scheme with a particular focus on empowering rural women.

Salient Features

- The Scheme is implemented in Districts where the number of Milk Cooperative societies is less than the number of revenue villages.
- The distribution of milch cows is taken up in those Village Panchayats where there were no Milk Producers Cooperative Societies. Consequent to the distribution of milch cows, Milk Producers Cooperative Societies are formed in those village panchayats and milk is procured from beneficiaries.
- Beneficiary should be a woman.
- Milch Cows that are in their 1st or 2nd lactation are procured from neighbouring

States and the beneficiaries themselves select their cows.

- ❖ Insurance of animals is done at Government cost at purchase spot itself.

Eligibility criteria

- Selection of beneficiaries is done by Village Level Committee (VLC) consisting of Village Panchayat president, Vice-President, Senior most ward member representing SC / ST community, Panchayat level Federation Co-ordinator, Secretary of the Village Poverty Reduction Committee (VPRC) / Self Help Group representative, Veterinary Assistant Surgeon and Zonal Deputy Block Development Officer. The beneficiary list is approved by the Grama Sabha of the panchayat. In case of Milch cow beneficiary selection, the Extension officer or Senior inspector from Office of Deputy Registrar Dairy is included in the Village Level Committee. In the absence of elected members to the offices of the President,

Vice president, senior most ward member representing the SC/ST communities, the Special Officers shall be the member of the selection committee till the elected body comes into existence.

- Beneficiary should be a woman. Priority will be given to widows, destitute, physically challenged and transgenders.
- Beneficiary should be a permanent resident of the concerned Village Panchayat and below 60 years of age.
- At least 30% of beneficiaries should necessarily belong to SC / ST Communities.
- Beneficiary / their close relatives should not be employee of Central / State Government or any Organization / Co-operative or member of any local body.
- In addition, those who possess less than one acre of land in their own name or family members name can be a beneficiary.

Achievements

Under Free Distribution of Milch Cows Scheme, since 2011-12, a total of 75,448 women beneficiaries were provided with 75,448 milch cows. Approximately, 2.66 lakh litres of milk is being produced per day through these milch cows and 1,49,426 calves worth Rs.74.71 crore were born. This has led to the economic upliftment of the rural poor women. This flagship Scheme that has empowered the rural poor women economically will be continued by providing 12,000 Milch cows to 12,000 beneficiaries.

8.2 SHEEP AND GOAT DEVELOPMENT

In Tamil Nadu, Sheep and Goat are reared by resource poor farmers, mostly in traditional systems as sheep and goat rearing requires low input and rearing them is easy. There exists a growing demand for mutton and chevon. The supply-demand scenario suggests that the demand for livestock products is income elastic

and is rising continuously. Over the next two decades, demand for livestock products is likely to grow faster. The non-availability of good quality livestock in the open market and its spiraling prices are problems faced by the entrepreneurs / farmers in this sector.

The department is undertaking measures for improving the production and productivity of the Sheep and Goat population in the State. Improving the genetic pool of meat animals through livestock farms, addressing the Nutritional deficiencies by providing mineral mixtures to farmers, training the farmers on best practices etc. are some important initiatives undertaken by the department for Sheep and Goat Development.

Table 10 : Small Ruminant Breeds maintained in the Departmental Farms

Sl. No	Name of the Farm	Type of animal	Breeds
1	District Livestock Farm, Hosur (Krishnagiri District)	Sheep	Mecheri
		Goats	Tellichery, Kodi Adu, Salem Black

Sl. No	Name of the Farm	Type of animal	Breeds
2	District Livestock Farm, Abisegapatti (Tirunelveli District)	Sheep	Keelakarisal
		Goat	Kanni
3	District Livestock Farm, Pudukottai (Pudukottai District)	Sheep	Ramnad White
		Goats	Jamunapari
4	District Livestock Farm, Chettinad (Sivagangai District)	Sheep	Ramnad White
		Goats	Jamunapari, Tellichery
5	Sheep Farm, Chinnasalem (Villupuram District)	Sheep	Mecheri, Madras Red
		Goats	Salem Black, Tellichery
6	Sheep Farm, Mukundarayapuram (Vellore District)	Sheep	Madras Red
7	Sheep Farm, Sathur (Virudhunagar District)	Sheep	Vembur
		Goats	Kanni Adu

During the year 2017-18, 763 lambs and 877 kids were born in the Department Livestock Farms and 761 lambs and 993 kids were sold to the livestock farmers for breeding purposes.

8.2.1 Scheme for Free Distribution of Goats/ Sheep

The Government of Tamil Nadu announced the implementation of 'Scheme for Free Distribution of Goats/Sheep' to the poorest of the

poor in the State in order to improve their living standards.

Salient features

- Each beneficiary is provided with 1 male and 3 female goats / sheep which are around 6-8 months of age.
- Goats / Sheep are purchased from local shandy by beneficiaries themselves.
- Insurance of animals is done at Government cost at purchase spot itself.

Eligibility criteria

- Selection of beneficiaries is done by Village Level Committee (VLC) consisting of Village Panchayat president, Vice-President, Senior most ward member representing SC / ST community, Panchayat level Federation Co-ordinator, Secretary of the Village Poverty Reduction Committee (VPRC) / Self Help Group representative, Veterinary Assistant

Surgeon and Zonal Deputy Block Development Officer.

- The beneficiary list is approved by the Grama Sabha of the panchayat. In the absence of elected members to the offices of the President, Vice president, senior most ward member representing the SC/ST communities, the Special Officers shall be the member of the selection committee till the elected body comes into existence.

- Beneficiary should be a woman. Priority will be given to widows, destitute, physically challenged and transgenders.

- Beneficiary should be a permanent resident of the concerned Village Panchayat and below 60 years of age.

- For effective rearing of animals, one of the members of the family must be between 18 and 60 years of age.

- At least 30% of beneficiaries should necessarily belong to SC / ST Communities.

- Beneficiary / their close relatives should not be employee of Central / State Government or any Organization / Co-operative or member of any local body.
- The beneficiary should be landless agricultural labourer.

Achievements

A total of 8,72,152 poorest of the poor women were provided with 34,88,608 Goats / Sheep. Approximately 67.07 lakh kids worth Rs.1,676 crore have been obtained from the goats/sheep distributed.This has led to the economic upliftment of the rural poor women.

These flagship Schemes that have empowered the rural poor women economically, will be continued by providing 6,00,000 Goats / Sheep to 1,50,000 beneficiaries at no cost during 2018-19.

Genetic upgradation of sheep

The Department is undertaking a programme to genetically upgrade Mecheri sheep covering the districts of Salem, Tiruppur, Karur and Dharmapuri through natural service by using genetically superior Mecheri sheep at a total cost of Rs.5.25 crore. Over a 5 year period, totally 36,117 upgraded lambs that includes 14,447 upgraded breedable ewes are expected to be added to the population.

8.3 POULTRY DEVELOPMENT

Poultry farming has undergone a transformation from being mere backyard avocation to the present vibrant and dynamic commercial enterprise in Tamil Nadu. Poultry rearing is a commercial activity confined to the districts of Namakkal, Salem, Erode and Coimbatore. In fact the Namakkal belt continues to be the egg basket of the State contributing around 65% of the total egg production. Tamil

Nadu has a poultry population of about 11.73 crore out of which the commercial Poultry Population is about 10.34 crore. During 2017-18, about 1,741.61 crore eggs and 440.62 Metric Tonnes of poultry meat were produced by the State. There is a good potential for export of eggs, egg products and frozen chicken meat from our State. In order to facilitate exports, the Department has created "disease free compartments" in which, poultry farms are continuously monitored and kept under constant surveillance with respect to diseases like Avian Influenza, Ranikhet Disease, Salmonellosis as per the international regulations governing trade in livestock and livestock products.

Though poultry farming has developed into a big industry, eco-friendly backyard poultry rearing is also practiced in the State and continues to be the livelihood proposition of several poor farmers in the rural areas. It contributes to 3.5% of the total egg production in

the State. Besides income generation, rural backyard poultry ensures nutritional security and women empowerment.

Since these birds are on free range, they are very susceptible to Ranikhet, a highly fatal viral disease. To protect the poultry from this disease, the department is providing vaccination on specified days at the veterinary institutions and subcentres every week. The department also conducts a State wide vaccination programme against this disease during the month of February every year in which the entire backyard poultry population is covered.

8.3.1 Scheme for Poultry Development

With a view to replicate the success of commercial poultry farming in the Namakkal belt, to create entrepreneurs at village level and to improve the per capita income in the backward regions of the State, the Government of Tamil Nadu launched the "Scheme for Poultry

Development" during 2012-13 and is under continuous implementation till date.

As per the Scheme, poultry clusters comprising of Broiler/Native chicken farms have been established in the backward districts of the State. The Government provides 25% of the cost of establishment of poulty farms as front ended subsidy. As per the Scheme, at least 30% of the beneficiaries should necessarily belong to SC / ST Communities.

8.3.1.1 Establishment of Broiler Farms

Broiler Chicken rearing can be undertaken through integration wherein integrators supply day old chicks, health cover and feed required for the birds. The integrators also ensure that the birds are marketed through their own channels. Growing charges for rearing of chicks is paid by integrators to the beneficiaries. A broiler farm upto 5,000 birds can be profitably run using family labour alone and thus negates the requirement of additional man power. A sum of Rs.2,68,750 is being provided to the

beneficiary as 25% State Government subsidy under the scheme.

8.3.1.2 Native chicken rearing

Since Native chicken meat has a better market throughout the State, Native chicken rearing is encouraged under the Scheme wherein a flock size of 250 / 500 birds can be profitably reared and marketed by the farmers themselves. The beneficiary is encouraged to procure chicks from Native Chicken Breeders / Hatchery units. A sum of Rs.38,750 is being provided to each beneficiary as 25% State Government subsidy for rearing 250 birds. In order to encourage the beneficiaries to continue the avocation, a sum of Rs. 7,000 is given as incentive for 2nd and 3rd batch, which is 50% and 30% of the chick cost respectively.

Under the Scheme, 2,961 Broiler farms, 18,545 Native chicken farms have been established since 2012-13 at a total cost of

Rs.141.10 crore. The Government has allocated a sum of Rs.50 crore for Poultry development across the State during the year 2018-19.

The Department maintains poultry units in 4 Farms. These Farms act as model units for demonstrating best practices and scientific techniques to the poultry farmers.

Table 11 : Poultry varieties maintained in Departmental Farms

Sl. No	Name of the Farm	Varieties
1	District Livestock Farm, Hosur (Krishnagiri District)	Aseel
2	District Livestock Farm, Abisegapatti (Tirunelveli District)	Vanaraja, Giriraja, Aseel
3	District Livestock Farm, Chettinad (Sivagangai District)	Aseel
4	Poultry Farm, Kattupakkam, (Kancheepuram District)	Vanaraja, Giriraja, Aseel, Nicobari, Kadaknath, White Leghorn
		Japanese Quail
		Broad breasted bronze and Beltsville white Turkey varieties

In order to cater to the increasing demand for native chicken in the State, a Native Chicken Breeding Complex is being established at District Livestock Farm, Hosur, Krishnagiri District, at an outlay of Rs.6.74 crore to produce and supply approximately 10 to 12 lakh chicks annually. The funds for the scheme have been sourced from the National Agriculture Development Programme.

There are three hatchery units located at Masinagudi in The Nilgiris District, Cheranmahadevi in Tirunelveli District and Kodaikkanal in Dindigul District.

8.3.2 Innovative Poultry Productivity project for Low Input Technology birds and broilers

The Department is also encouraging the rearing of Low input technology dual purpose birds (LIT) (Giriraja, Vanaraja, Gramapriya etc.,) that are capable of producing both egg and meat with minimum investment and maintenance cost. The Scheme will be implemented in Dharmapuri

and Ramanathapuram Districts in which 400 beneficiaries selected from the two districts (200 per district) shall be provided with 200 birds each in the first year and after a gap of 72 weeks second batch of 200 birds will be provided to the same beneficiary. During the current year a total of 80,000 birds will be distributed to the beneficiaries at a total cost of Rs.100 lakhs.

Besides this, an Innovative poultry productivity project for broilers is implemented in Tiruvannamalai district wherein 200 beneficiaries shall be provided with 600 birds in four batches of 150 birds. A total of 1,20,000 birds will be distributed to 200 beneficiaries at a total cost of Rs.225 lakhs. The fund for the same is sourced from the National Livestock Mission.

8.4 PET ANIMAL ORIENTED SERVICES

The department undertakes animal birth control measures in collaboration with the concerned municipal authorities under the ABC

programme to reduce stray dog population in the State. A total of 12,049 castrations and 766 spaying have been performed by the veterinary institutions in the State during 2017-18. A total of 61,041 dogs were also vaccinated against rabies as a public health initiative. 11761 dogs were vaccinated against Canine distemper, Leptospirosis, Parvovirus and Infectious canine Hepatitis diseases.

Tamil Nadu possesses excellent native dog breeds like Rajapalayam, Kombai, Chippiparai and Kanni. To conserve and propagate these native breeds, a Dog Breeding Unit is functioning at Saidapet, Chennai since 1980. Puppies are sold to the public based on their registration seniority at the price fixed by the Government.

8.5 FODDER DEVELOPMENT

Feed and fodder are the major limiting factors in enhancing livestock productivity. Feeding is the major input component of livestock

production accounting for 55-60 per cent of the total cost of production. Therefore, judicious feeding is the most important component of economical farming. Livestock must be fed with a balanced ration incorporating all nutrients in right proportions.

It has been the endeavour of the department to create awareness among livestock farmers that fodder crops are also cash crops more so in the context that this subsector of agriculture contributes in a large measure to the agriculture GSDP, and this is supplemented by various initiatives since 2011-12. To promote fodder development, the Government ordered not to transfer the grazing lands for other purposes unless alternate land of the same extent is developed for grazing in the same district.

Both quantitatively and qualitatively, there exists a substantial gap between the demand and supply of green fodder. To reduce gap between the demand and supply of feed and fodder

through enhancement of production and efficient utilization of available resources, the Government is implementing State Fodder Development Scheme since 2011-12 for which a sum of Rs.165 crore has so far been allocated. It has been ensured that atleast 30% of the beneficiaries selected under each component belong to SC / ST Communities.

The following initiatives have been taken up by the department to bridge the gap between availability and demand of green fodder in the state:

As a measure of mainstreaming fodder cultivation by farmers, cultivation of high bio mass yielding fodder crops such as Co-4, Co-5, fodder Sorghum, along with cow pea, desmanthes in farmers' own lands is being aggressively propagated by the department. As a consequence, about 2.98 Lakh acres of farmers' holdings have been brought under green fodder cultivation across the State thereby producing

approximately 184.25 LMT of green fodder. The inputs like fodder seeds/ planting material are provided at 50% subsidy to the farmers.

Supplementing the cultivation efforts, the department is promoting the usage of chaff cutters among farmers with a view to reduce wastage of fodder as well as to improve the digestibility. So far, 12,703 Chaff cutters have been distributed to farmers @ 75% subsidy.

Farmers are also sensitized on the technology to conserve surplus fodder to overcome scarcity of fodder during lean periods by distribution of silage making bags for ensiling the surplus fodder. Around 40,000 numbers of 250 kg capacity silage bags were distributed free of cost to 10,000 farmers @ 4 bags / farmer.

As a measure of water conservation and to enhance the productivity of crop by effectively utilizing the available water, 10,483 Rain guns were installed in farmers' fields at 75% subsidy.

The department is also propagating alternate fodder sources that require locally available low cost inputs and produce nutritious fodder. Azolla - a low cost feed substitute that considerably reduces feed cost is promoted among farmers. A total of 30,958 Azolla units have been established throughout the State for which inputs are provided free of cost.

To enlighten the farmers on feeding tree fodder to the animals, saplings of various tree fodder varieties like Kalyanamurungai, Velvel, Agathi, Subabul, Camelia, Glyricidia etc, were raised in departmental farms and 62 lakh numbers of seedlings were distributed to farmers.

As a measure of promoting alternate fodder cultivation method, the department is promoting Hydroponic fodder cultivation technique among farmers. A total of 1,100 such units have been established in the state for which 75% subsidy is

provided. The above endeavours shall be continued in 2018-19 at an outlay of Rs.25 crore.

To ensure timely supply of seeds to the farmers, fodder seed production units have been established in seven Department Livestock farms. The departmental farms produce and supply green fodder, certified seeds, fodder slips, fodder tree saplings and vermicompost to farmers. Further, alternative fodder sources like Hydroponic fodder and Azolla (which is rich source of protein) demonstration units are also maintained in the farms.

8.5.1 Sustainable fodder production initiatives in department farms

In order to ensure uninterrupted supply of required green fodder to the animals reared the DLF, Hosur is strengthened with adequate infrastructure facilities to bring in 100 acres of new area under irrigated green fodder cultivation and to rejuvenate 100 acres of pasture lands of the farm at an outlay of Rs.3.509 crore. The

scheme is under implementation. An additional quantity of 9000 MT of green fodder will be produced through this project.

As a continuing measure of improving the availability of quality fodder seeds, lands available at District Livestock Farm, Hosur in Krishnagiri district have been earmarked for raising foundation class Cowpea seeds. Approximately 10 quintals of cowpea seeds shall be produced and distributed to farmers so as to cover 62.50 acres. These shall be utilized for fodder seed production or fodder production by the farmers in their own lands to cover 62.5 acres either for seed production (250 quintals) or for green fodder production (750 tons green fodder) at a cost of Rs.1 lakh. Further, as a measure of reducing wastage of feed and increase the digestibility of fodder, 700 Power Operated Chaff Cutters shall be supplied in all Districts except Chennai at a cost of Rs.1.40 crore at 75% subsidy. The funds for the

above measures are sourced from the National Livestock Mission programme.

A green initiative has also been started in the department farms in which fodder trees are being cultivated in 600 acres in Chettinadu and Hosur (200 acres each) Abisegapatti and Pudukottai (100 acres each). A total of 1.95 lakh tree saplings of Kalyanamurungai, Neem, Soobabul, Glyricidia etc shall be planted thus serving the cause of fodder as well as an environment friendly initiative.

Table 12: Details of Fodder Production & Distribution in Departmental farms (2017-18)

S. No	Name of the Farm	Area under Fodder cultivation (in Acres)	Fodder Production (MT)	Fodder Slips distributed to farmers (nos)	Fodder seed distributed to farmers (MT)	Tree fodder seedlings distributed to farmers (Nos)
1	DLF, Abhishega patti	48.00	497.34	2,02,400	0	0
2	DLF, Chettinad	245.26	2,688.09	55,28,300	19.054	0
3	Sheep Farm, Chinnasalem	23.00	413.40	0	0	0
4	ECBF, Eachenkottai	96.36	2,371.00	45,06,000	0	0

S. No	Name of the Farm	Area under Fodder cultivation (in Acres)	Fodder Production (MT)	Fodder Slips distributed to farmers (nos)	Fodder seed distributed to farmers (MT)	Tree fodder seedlings distributed to farmers (Nos)
5	DLF, Hosur	129.00	2,529.00	46,000	0	0
6	LF, Korukkai	50.00	1,399.50	0	0	0
7	DLF, Ooty	34.47	1,211.46	0	0	0
8	DLF, Naduvur	48.70	1,767.00	21,47,500	0	0
9	DLF, Pudukottai	14.00	787.00	0	0	0
10	Sheep farm, Sathur	23.00	91.90	22,100	0.1825	0
11	Sheep Farm, Mukundarayapuram	29.50	305.00	3,,20,000	0	0
12	Padappai	14.00	1.18	91,000	0.0365	451
	Total	**755.29**	**14061.87**	**12863300**	**19.27**	**451.00**

Through all these measures, the department has successfully driven home the concept of fodder cultivation in farmers own lands which over a period of time shall address the gap between availability and demand of fodder in the State.

9. VETERINARY INFRASTRUCTURE

The department provides veterinary Services like health cover, disease prevention, clinical services, disease eradication and breeding support through an array of veterinary institutions like Polyclinics, Clinician Centres, Veterinary Hospitals and Veterinary Dispensaries. Disease prevention, control and eradication are undertaken through Animal Disease Intelligence Units and Poultry Disease Diagnostic Labs and a Veterinary Epidemiology Centre as required from time to time. There are 13 livestock farms, including 3 sheep and goat farms, one exclusive poultry breeding farm and one fodder farm. Livestock farms are maintained for through selective scientific breeding of livestock and they function as live gene banks.

The veterinary institution has transformed itself from being a facility for providing treatment for ailing livestock to being a knowledge resource centre. Farmers can access any veterinary

institution within their vicinity for availing any of the services. Hence it is imperative that all the institutions are provided with appropriate infrastructure. Improved infrastructure will result in improved veterinary services, with a consequent increase in the overall productivity. With the ultimate aim of rural development, the Department's infrastructure is being developed with assistance from NABARD Rural Infrastructure Development Fund (RIDF), National Agriculture Development Programme, Establishment and Strengthening of Veterinary Hospitals and Dispensaries and State funds. This has enabled provision of effective services besides transforming the veterinary institution into a knowledge resource centre.

During the period from 2011-12 to 2017-18, 1,895 veterinary institution buildings were newly constructed at a total cost of Rs.557.28 crore through various Schemes.

The vaccine production laboratories in Institute of Veterinary Preventive Medicine, Ranipet is being upgraded into a world class GMP compliant laboratory. The works are being undertaken in collaboration with Tamil Nadu Veterinary and Animal Sciences University and the National Dairy Development Board. Further, a Poultry Disease Diagnosis Lab and feed testing lab which is BSL II compliant is also under construction at Palladam in Tiruppur District to provide disease diagnostic as well as feed testing facilities to the poultry farmers in nearby districts.

Table 13 : Scheme wise fund allocation for Infrastructure Development

S. No	Name of the Scheme	No. of Buildings	Total Allocation (Rs. in crore)
1	State Fund	22	46.51
2	ESVHD	256	25.51
3	NADP	95	16.66
4	NABARD	1,522	468.60
Total		**1,895**	**557.28**

During the 7 year period from 2011-12 to 2017-18 repair and renovation works were carried out in 1,306 veterinary institutional buildings at an outlay of Rs.82.80 Crore.

10. EXTENSION AND OUTREACH PROGRAMMES

In our State, diversification from 'crop based rural economy' into animal husbandry based integrated farming system should be given high priority so as to ensure food and nutritional security, rapid economic development, generating equitable income, employment and environment sustainability. This alone can reduce the sole dependence on rain fed agriculture and pave the way for doubling farmers income. To achieve this objective, importance needs to be given to landless and marginal farmers who hold a majority of the livestock by bringing them into organised fold of livestock rearing. These farmers need to be imparted knowledge and skills on the best practices in feeding, breeding and

management which will make livestock rearing a profitable avocation. This objective can be achieved through outreach programmes, conducting livestock fairs, health camps with focussed attention to particular ailments and conditions that impair production and productivity of the livestock. Camp approach with delivery of a host of veterinary services at or near the doorsteps coupled with training on best practices would only ensure higher returns for the farmers.

10.1 Mission on Sustainable Dry land Agriculture (MSDA)

With an objective to optimize the health and productivity of the cattle in dry land areas by providing area specific nutrients, to improve the reproductive efficiency of the crossbred cattle by conducting reproductive health camps and to optimise the udder health by identifying sub-clinical mastitis and thereby improving the productivity.

10.1.1 Optimising the nutrient profile of cattle

Crossbred cows belonging to the farmers in the Dryland clusters are being provided with area specific mineral mixture (@14kg/animal/year) for 1,000 animals in a cluster to improve their general health status.

10.1.2 Optimising the reproductive health

150 cattle and buffaloes / cluster will be provided with Reproductive health package including antibiotics, supportive, intra-uterine infusions, hormones, anti-inflammatories, uterine ecbolics will be procured through TNMSC and TANUVAS.

10.1.3 Optimising udder health of cattle

150 crossbred cattle in a cluster with poor milk production will be tested and identified for subclinical mastitis and provided treatment with

the udder health package procured through TNMSC and TANUVAS.

The above programmes are being implemented in 25 districts where dry land agriculture is practiced for which a sum of Rs.20 crore has been allocated (Rs.14 crore under State budget and Rs.6 crore under NADP).

10.2 Livestock Protection Scheme

Under Kalnadai Padhukappu Thittam, special veterinary health camps are conducted as a part of the extension endeavour of the department in which the veterinary institution is taken to a remote village and all the services are provided there. A total of 5,500 special camps are conducted every year in all the Panchayat Unions at a total outlay of Rs.2.31 crore. During 2018-19 also this outreach activity shall be continued.

10.3 Livestock Fairs and Exhibitions

Extension and propaganda are important tools for imparting skills and knowledge in basic and modern animal husbandry practices, which in turn can play a vital role in solving many field problems and in containment of diseases that cause economic losses. Moreover, it can make the schemes and programmes implemented by the Department more transparent to the public.

During the year 2017-18, a sum of Rs.10.50 lakh was allocated towards participating in fairs conducted in various districts.

The department participated in various fairs across the state such as trade fair in Vellore, Coimbatore, Madurai, Thanjavur, Tirunelveli, Thiruvannamalai, Salem, Kanniyakumari and Thiruchirapalli districts. The department also participated in area specific events such as Kodaikanal Kodai Vizha in Dindigul, Yelagiri Kodai Vizha in Vellore, Valvil Ori Vizha in Namakkal,

Deepam Thiruvizha in Thiruvannamalai, Yercaud Kodai Vizha in Salem and Mangani Fair in Krishnagiri districts.

Apart from the fairs, the department participated in the 44th Trade Fair and Exhibition held during January 2018 to March 2018, at Island Grounds Chennai and also in Republic Day Parade Pageantry at Chennai.

10.4 World Bank Assisted Tamil Nadu Irrigated Agricultural Modernisation Project (TN IAMP)

Animal Husbandry Department is one of the line departments involved in implementation of World Bank Assisted Tamil Nadu Irrigated Agricultural Modernisation Project. Animal husbandry activities are to be implemented in 66 sub basins covering 31 districts at a total out lay of Rs.38/- crore over a period of 6 years.

Under Phase I, the World Bank has provided clearance for implementing animal husbandry activities in 18 sub basins viz., Lower Vellar,

Lower Palar, Krishnagiri to Pambar, Lower Bhavani, Upper Bhavani, Nagariar, Gadananadhi, Lower Thamirabharani, Kallar, Ponnannaiyar, Cauvery Delta, Lower Vaigai, Sirumalaiyar, Gowsiganadhi, Sathiar, Manjalar, Varaganadhi and Suruliyar covering 22 districts at a total outlay of Rs.20.39 crore for 6 years.

During 2018-19, the following animal husbandry activities are to be implemented in 18 sub basins of Phase I at a total cost of Rs.5.69 crore.

- 44 Dairy Interest Groups consisting of 25 farmers per group will be formed.
- Calf Management Demos will be conducted by periodically deworming and providing mineralized salt licks to 3,300 calves.
- Mastitis Management Demos will be conducted by providing mastitis prevention kit to 3,960 milch animals and treatment kit to 1,188 milch animals.

- Infertility Management Demos will be conducted by conducting 528 Fertility Camps and programmed breeding in 5,280 animals.

- 695.20 hectares will be brought under fodder cultivation by supply of fodder cholam, fodder maize, cow pea and agathi seeds free of cost.

- 1.38 lakh artificial inseminations will be performed at the farmer's doorsteps.

- 2,000 breedable cows will be artificially inseminated by introducing sex sorted semen.

- 173 refrigerators, 333 sterilizers, 509 castrators, 400 milk teat treatment instrument sets, 400 needle destroyers and 199 microscopes will be provided to needy institutions

- 15 High resolution microscopes and various disease diagnostic kits will be provided to Animal Disease Intelligence Units.

10.5 Animal Mobile Medical Ambulance (AMMA)

Animal Mobile Medical Ambulance is being operated by TANUVAS in 5 districts namely Kancheepuram, Madurai, Namakkal, Tiruchirapalli and Thanjavur since 2015-16. The services are being extended to the remaining districts by the Department of Animal Husbandry and Veterinary Services. Under this service, each district will be provided with one ambulance. The ambulance can be reached through a call centre that can be accessed by dialling a toll free number "1962". The ambulance will provide emergency care at farmers' doorstep. Animals requiring institutional care will be shifted to the identified Emergency Veterinary Care Centre. 22 vehicles have been purchased by the department and are being fabricated to function as animal ambulances which will be operated soon.

11. LIVESTOCK CENSUS AND INTEGRATED SAMPLE SURVEY

11.1 Livestock Census

Enumeration of livestock for livestock census started during the year 1919-20. Livestock census is conducted across the country every five years and it encompasses several activities to be carried out within the stipulated time frame. The 19th livestock census was conducted during the year 2012. Government of India has issued guidelines and plan of action for the conduct of 20th quinquinneal livestock census. Preparatory works such as nomination of nodal officers and selection of enumerators / supervisors in all districts have been completed. The Enumerators and Supervisors collect information related to cattle, buffaloes, sheep, goat, pigs, horses, ponies, donkeys, dogs, rabbits and elephants and poultry which includes fowls, ducks, turkeys, quails and other poultry birds and mechanised equipment such as milking machine,

fodder cutter, chopper and baler machines.This census includes both the species and breed wise population of the State. For the first time, tablet computers shall be utilised for conducting the enumeration process.

11.2 Integrated Sample Survey Scheme

Annual Sample Surveys are being carried out under Central Sector Scheme *viz.,* 'Integrated Sample Survey' from the year 1977-78 onwards with 50% financial assistance from Government of India. Under this scheme, production of Milk, Meat, Egg and Wool are estimated as per the guidelines of Department of Animal Husbandry, Dairying & Fisheries, of Government of India. The survey is carried out in 3 seasons *viz*., Summer, Rainy and Winter season for studying the seasonal fluctuations in production. The survey covers 15% of villages in each district as per guidelines of Government of India.

The results of Integrated Sample Survey are useful in evolving, monitoring and evaluating the developmental schemes implemented for the economic improvement of the livestock farmers over a period of time and helps to assess the impact of its efforts.

Table 14 : Estimated production of milk, egg and meat

Item	Unit	2016-17*	2017-18*	% of increase
Estimated Milk Production	Lakh MT	75.56	77.42	2.46
Estimated Egg Production	Lakh Nos.	1,66,824	1,74,161	4.39
Estimated Meat Production	MT	5,72,939	6,03,352	5.31

**provisional*

12. ANIMAL WELFARE MEASURES

The Government in coordination with Animal Welfare Board of India is addressing the problems of unethical treatment meted to animals at (1) the Livestock market, (2) during transport and at

(3) slaughter houses to prevent cruelty to animals and to treat them in a humane manner.

To effectively implement animal welfare measures and rules, Society for Prevention of Cruelty to Animals (SPCA) has been formed in all Districts of Tamil Nadu, as per Section 38 of the Prevention of Cruelty to Animals Act, 1960 and Prevention of Cruelty to Animals Rules (Amendment), 2001.

The main objectives of Society for Prevention of Cruelty to Animals (SPCA) are

- to rescue and take care of all animals in the Districts as laid down in the PCA Act, 1960
- to register cases of cruelty to animals and produce the offenders before the court for conviction

12.1 Transport of Animals

The Ministry of Road Transport and Highways has issued notification No.GSR 546 (E), dt.08.07.2015 amending Central Motor Vehicle

Rule 2015, changing the space requirement for animals during transport. As per Rule 125 (E), from 01.01.2016, the motor vehicles used for transportation of livestock by road shall be in accordance with the specifications of Bureau of Indian Standards as provided in IS 14904:2007 or IS 5238:2001 or IS 5236:1982.

13. JALLIKATTU - the traditional and cultural identity of Tamil Nadu

Jallikattu is a traditional sporting event of rural people in Tamil Nadu which is conducted during Pongal Festival. The sport has a 5000 year old tradition and a history associated with the Socio cultural ethos of rural Tamil Nadu. Jallikattu events are conducted only in those places that are notified in the State Gazette. The conduct of each jallikattu event is subject to the Tamil Nadu Prevention of Cruelty to Animals (Conduct of Jallikattu) Rules, 2017. During 2017, jallikattu events were conducted in 203 notified places in 14 Districts.

Compliance to the Prevention of Cruelty to Animals (Tamil Nadu amendment) Act, 2017 was ensured through adequate precautionary measures during 2017-18. It was also ensured that the bulls are not subjected to unnecessary pain and suffering. The organisers and other stake holders were sensitised by the district collectors regarding the procedures to be adopted for conducting jallikattu. Banners displaying the responsibilities of the bull owners/ participants/ organisers were kept at strategic places which also included the dos and donts in jallikattu events. Check list regarding the actions to be taken before, during and after conduct of jallikattu was followed meticulously. All these measures have ensured that untoward incidents do not occur during the conduct of jallikattu events in the State.

During 2018, so far, Government notifications have been issued for 383 villages and 284 jallikattu events have been conducted in 17 Districts. The events shall be permitted till May 2018.

14. TAMILNADU LIVESTOCK DEVELOPMENT AGENCY

Tamil Nadu Livestock Development Agency (TNLDA) established during 2002-03 is implementing cattle and buffalo breeding programmes from 9.1.2003.

14.1 Objectives of the Agency

The primary objective of the agency is to bring all the breedable age cattle and buffaloes under defined breeding programme to increase their productivity.

14.2 Programmes

To achieve the objective, a number of initiatives were undertaken during 2017-18 that include strengthening the frozen semen production stations, distribution network for frozen semen and other breeding inputs, breeding infrastructure at artificial insemination centres, capacity building for artificial insemination workers, conducting skill development programmes, animal identification and traceability, risk mitigation and risk management

14.2.1 Strengthening of frozen semen production stations, distribution network and breeding infrastructure

The Frozen semen production was enhanced by inducting 47 high genetic merit bull calves. The Frozen semen production station at District Livestock Farm, Udhagamandalam was strengthened to increase the semen production and to fulfil the States requirement of frozen semen straws under National Dairy Plan phase-I at a cost of Rs.5.37 crore

Strengthening of storage, transport and distribution of liquid nitrogen was undertaken at a cost of Rs.2 crore. In addition, artificial insemination equipment were replaced in 870 artificial insemination centres at a cost of Rs.2.175 crore.

Under National Mission on Bovine Productivity, procurement of tablet computers, ear tags, and printing of animal health cards have

been taken up at a cost of Rs.7.85 crore to ensure animal identification and traceability through Information Network on Animal Production and Health (INAPH).

14.2.2 Capacity building for artificial insemination workers

26 veterinarians were trained as master trainers at National Dairy Development Board to monitor the animal productivity and health through Information Network for Animal Production and Health (INAPH) software, at a cost of Rs.2.40 lakh. Further, 120 veterinarians were provided professional training to augment their skills at a cost of Rs.6.00 lakh.

Besides this, 100 artificial insemination technicians and 450 livestock inspectors were provided refresher training at a cost of Rs.16.50 lakh. 200 rural youth were trained for artificial insemination work and were equipped with necessary equipment to function as Multipurpose

Artificial insemination technicians (MAITRI) at a cost of Rs.1.60 crore. So far, 2,220 village youth have been trained and 21.72 lakh artificial inseminations have been performed by them.

14.2.3 Skill development programmes

A total of 17,000 farmers participated and benefitted from 'One day seminars' on "recent advancements in animal husbandry practices" conducted in coordination with Tamil Nadu Veterinary and Animal Sciences University at a cost of Rs.20 lakh. Further, 4 workshop cum seminars on 'Livestock farming and breeding' were conducted in coordination with District Cooperative Milk producers' Unions for the all stake holders at a cost of Rs.4.00 lakh.

14.2.4 Conservation of indigenous breeds

A Cattle Research Station at Andhiyur, Erode district for conservation and development of the indigenous Bargur breed of cattle was established under the aegis of Tamil Nadu

Veterinary and Animal Sciences University at a cost of Rs.50.00 lakh.

Production of indigenous bull calves for cross breeding as well as pure breeding was undertaken by induction of 50 Tharparkar heifers/ cows procured from Rajasthan and these are maintained at District Livestock Farm, Chettinad.

The infrastructure facilities for fodder production at Livestock farm Korukkai, Tiruvarur district that maintains the indigenous Umbalacheri breed of cattle are being strengthened at a cost of Rs.50 lakh.

14.2.5 Risk mitigation and risk management

Under the National Livestock Mission 2 lakh cattle units were brought under Insurance coverage at a cost of Rs.11.08 crore.

15. TAMIL NADU VETERINARY AND ANIMAL SCIENCES UNIVERSITY

Tamil Nadu Veterinary and Animal Sciences University was established in the year 1989 to impart quality education to undergraduate, postgraduate and doctoral students in different fields of Veterinary and Animal Sciences and Food Sciences, carry out research in livestock and poultry production, protection and value addition of products and disseminate knowledge on important technologies to line departments and farming community for the sustenance and growth of livestock and poultry in the State through extension programmes.

The University imparts both undergraduate and postgraduate education through its constituent colleges, namely Madras Veterinary College, Chennai, Veterinary College and Research Institutes at Namakkal, Orathanadu and Tirunelveli, College of Food and Dairy Technology, Koduveli and College of Poultry Production and Management, Hosur.

Apart from these six colleges, the University has nine Research farms/Stations namely Instructional Livestock Farm and Poultry Research Station at Madhavaram in Tiruvallur district, Post graduate Research Institute in Animal Sciences at Kattupakkam in Kancheepuram district, Mecheri Sheep Research Station at Pottaneri in Salem district, Sheep Breeding Research Station at Sandynallah in Nilgiris district, Regional Research and Education Centre at Pudukottai, Bargur Cattle Research Station at Bargur, Kangeyam Cattle Research Station at Sathyamangalam in Erode district and Pulikulam Cattle Research Station at Manamadurai in Sivagangai district.

In addition to these Colleges and Research Farms/Stations, the University has a total of 26 Extension Centres including 20 Veterinary University Training and Research Centres at Coimbatore, Cuddalore, Dharmapuri, Dindigul, Erode, Karur, Krishnagiri, Melmaruvathur, Nagapattinam, Nagercoil, Perambalur,

Rajapalayam, Ramanathapuram, Salem, Thanjavur, Tiruchy, Tiruppur, Tiruvannamalai, Vellore and Villupuram; three Farmers' Training Centres at Kancheepuram, Theni and Thiruvarur and three Krishi Vigyan Kendras at Kattupakkam in Kancheepuram district, Kundrakudi in Sivagangai district and at Namakkal in Namakkal district. Also there are 11 Laboratories/ Centres/Units viz., Central University Laboratory, Bacterial Vaccine Research Centre, Viral Vaccine Research Centre, Laboratory Animal Medicine Unit, Pharmacovigilance Laboratory for Animal Feed and Food Safety and Zoonoses Research Laboratory at Madhavaram; Animal Feed Analytical and Quality Assurance Laboratory and Poultry Disease Diagnosis and Surveillance Laboratory at Namakkal; Veterinary science training and disease diagnostic lab in Madurai Avian Disease Laboratory at Thalaivasal and Stem Cell Research Laboratory at Madras Veterinary College, Chennai.

15.1 Education

The University offers B.V.Sc & A.H. degree course for 360 students through its constituent colleges viz., Madras Veterinary College, Chennai (120); Veterinary College and Research Institute, Namakkal (80), Veterinary College and Research Institute, Orathanadu (80) and Veterinary College and Research Institute, Tirunelveli (80) besides B.Tech (Food Technology) for 40 students and (Dairy Technology) for 20 students at College of Food and Dairy Technology, Koduveli and B.Tech (Poultry Technology) for 40 students at College of Poultry Production and Management, Hosur. In addition, M.V.Sc and Ph.D.(Veterinary) are offered at Madras Veterinary College, Chennai and Veterinary College and Research Institute, Namakkal. M.Tech and Ph.D (Food Technology) programmes are offered at College of Food and Dairy Technology, Koduveli.

Vision 2023 document of Tamil Nadu sets the action plan for infrastructure development to

achieve the desired outcomes by 2023. As per the Vision document, institutions are expected to have good infrastructure in the form of smart class rooms, seminar halls, processing and testing laboratories. The Government of Tamil Nadu have sanctioned Rs. 1400 lakh with loan assistance from NABARD under Rural Infrastructure Development fund for "Construction of Academic Blocks" at the College of Food and Dairy Technology, Koduveli.

15.2 Research Initiatives

A total of 25 research projects with a budget outlay of Rs.4441.57 lakh has been obtained from various National and International funding agencies during 2017-18 for carrying out research activities at TANUVAS.

The Government of India has launched Rashtriya Gokul Mission for conservation and development of indigenous breeds of the country in a focussed and scientific manner. In line with this policy, the objective of Govt. of Tamil Nadu

under 12th Five year plan includes conservation of indigenous breeds in their native breeding tract and in accordance, the Govt. of Tamil Nadu has sanctioned two projects namely "Establishment of Kangeyam Cattle Research Station at Erode District" and "Establishment of Genetic Resource Centre for conservation of the indigenous cattle breed of Tamil Nadu – Pulikulam at Manamadurai" with a total budget of Rs.450 lakh under National Agricultural Development Programme (NADP) and TANUVAS is in the process of establishing these Research stations.

The development of poultry industry is significant in the State and the State is one of the leaders in egg production in the country. Further, to develop poultry industry, the Government of Tamil Nadu have launched the Scheme for Poultry Development during 2012-13. One of the biggest challenges to the poultry industry is the occurrence of Newcastle disease, which causes high mortality in chicken. In order to improve the existing vaccines and to control the disease

occurrence, the Govt. of Tamil Nadu has sanctioned a project "Development and standardization of a novel DIVA (marker) vaccine against Newcastle disease to augment production from poultry" under Tamil Nadu Innovation initiatives (TANII) with a budget of Rs. 166 lakh for a duration of three years. In order to promote One health approach for control of Zoonotic diseases in the state, the Govt. of Tamil Nadu has sanctioned another TANII funded project "One health approach for animal and public health to augment food safety and productivity" with a budget of Rs. 545 lakh for a period of three years.

The Govt. of India under the National Livestock Mission (NLM) is giving emphasis on proper disposal of carcasses and in this context, it has sanctioned a project on "Establishment of Carcass Utilization Plant" at Madhavaram, Chennai with a budget outlay of Rs.200 lakh for effective disposal of animal carcasses to avert environmental pollution.

15.3 Clinical services

TANUVAS is offering and health clinical services to the livestock and companion animals round the clock. A total of 2,51,374 animals were treated as out-patient cases and 6500 animals as in-patient cases during the year 2017. The teaching hospitals at TANUVAS are equipped with advanced infrastructure facilities like Doppler Blood Pressure apparatus, Laparoscopy unit, Dental scalar, Echo colour Doppler, Ophthalmoscope, Arthroscope, etc. A separate quarantine unit to house animals suspected for rabies is functioning in all the veterinary institutions.

15.4 Extension Activities

In line with the developmental goal set by the Prime Minister of India to double farmers' income by 2022 from farming activities, TANUVAS has implemented extension initiatives and

activities to enhance production and productivity of livestock and poultry.

"Farmers First Programme" is an Indian Council of Agricultural Research (ICAR) initiative to enhance Farmers – Scientists interface and in line with this policy, ICAR has sanctioned a project entitled "Improving the livelihood security of farmers through technological interventions in Tiruvallur district to TANUVAS with a budget outlay of Rs.95.34 lakh. The Tribal sub-Plan (TSP) strategy of tribal development is another concept initiated by ICAR to address the issues of backwardness in rural areas and tribal population in an integrated way. Accordingly, ICAR has sanctioned a project namely "Technological empowerment of tribal farmers through TANUVAS technologies" with a budget outlay of 116.04 lakh under Tribal sub Plan Programme.

The University outreach activities are focused towards empowering farmers, farm women, rural youth, school dropouts and self help groups with

skill in livestock and poultry practices for improving their livelihood through Capacity building programmes, Frontline demonstrations and On-farm trials and dissemination of livestock and poultry technologies through print media, electronic media and e-Extension initiatives.

A total of 1,259 On-campus and 928 Off-campus training programmes were conducted on 23 different topics including dairy farming, sheep and goat farming, poultry farming, pig farming, milk and milk products and feed and fodder cultivation. A total of 64,743 farmers including 18,265 SC/ST were imparted knowledge and skill during the training programmes.

The Directorate of Distance Education is offering 22 PG diploma courses for the veterinarians to update their knowledge and skills on latest technologies in animal husbandry and veterinary sciences. In addition, 15 skill development and 10 self-employment courses in animal husbandry sector are being offered to the

farmers and rural youth to boost livestock and poultry production, thereby enhancing the rural income. During 2017, a total of 636 candidates have enrolled in the PG diploma (56), Skill development (59) and Self-employment courses (521).

15.5 Awards / recognitions

- Animal Feed Analytical and Quality Assurance Laboratory (AFAQAL), Namakkal and Pharmacovigilance Laboratory for Feed and Food Safety (PLAFFS), Chennai were accredited by NABL for chemical testing in Animal feed and Agricultural products in accordance with ISO/IEC 17025:2005 for a period of two years from 2017
- ICAR, New Delhi has awarded "Chaudhary Devi Lal Outstanding AICRP Award" to the All India Coordinated Research Project (AICRP) on Post-Harvest Engineering and Technology for its best performance and Madras Veterinary

College, Chennai is one of the cooperating centres of this AICRP

- TANUVAS received the breed registration certificate Award from ICAR-NBAGR for registration of Salem black goat

15.6 Innovations

- Newer technologies like TANUVAS Surgical Scrub kit, Nano Heal and Nano Dermal Cream, Mastiguard – Teat Protect and TANUVAS SCC count kit developed at Translational Research Platform for Veterinary Biologicals (TRPVB), TANUVAS, Chennai were released for the benefit of stakeholders

- Bluetongue inactivated attenuated vaccine with seed virus for sheep developed by the Viral Research Centre - Viral Vaccines, has been transferred to M/s. Brilliant Bio-Pharma Ltd., Hyderabad for commercial production

- A new crossbred pig, "TANUVAS KPM Gold" which is highly disease resistant and adaptable to local agro-climatic conditions was released

by the Hon'ble Minister for Animal Husbandry, Govt. of Tamil Nadu on 03.06.2017

- A total of 59 farm equipments and devices, designed and developed at University Innovation and Instrumentation Centre (UIIC), Madhavaram were sold to livestock farmers during 2017-18

15.7 Important events of TANUVAS during 2017-18

- Hon'ble Chief Minister of Tamil Nadu inaugurated the Centre for Stem Cell and Regenerative Medicine at Madras Veterinary College; Feed Processing Unit at VC&RI, Orathanadu and Administrative Building at Bargur Cattle Research Station, Bargur through video conferencing from the Secretariat, Chennai on 04.08.2017

- The Nineteenth Convocation of TANUVAS was held at MVC on 07.09.2017. Hon'ble Governor of Tamil Nadu and Chancellor of the University

presided and conferred degrees and diplomas to 289 candidates in-person and 143 candidates in-absentia and administered the pledge to the students

- The "Foundation Day 2017" of TANUVAS was celebrated at Dindigul on 10.11.2017. Hon'ble Minister for Forests and Hon'ble Minister for Animal Husbandry, Government of Tamil Nadu presided over the function and released two new varieties of poultry - Nandanam 4 and TANUVAS Native chicken (Aseel)

15.8 International Collaboration

During 2017, TANUVAS has signed MoUs with the following Universities for academic co-operation and research collaboration

- Chittagong Veterinary and Animal Sciences University, Chittagong, Bangladesh on 08.04.2017
- Washington State University, Washington, USA on 15.11.2017

- Oklahoma State University, Stillwater, USA on 15.11.2017

15.9 Priorities for 2018-19

- Animal and poultry waste management
- Control of biological vectors for prevention of haemoprotozoan diseases.
- Improving feed and fodder production so as to reduce the gap between demand and supply of these nutrients
- Preparation and standardization of marker vaccines for economically important infectious diseases
- Development of molecular diagnostic kits for infectious diseases using expressed / synthetic proteins
- Product Incubation Centres (Poultry / Dairy / Meat)
- Climate resilient technologies
- Improving the linkage between mass media and farmers

16. THE WAY FORWARD

Animal husbandry is a sustainable income generating activity that provides livelihood support to a majority of rural households, especially the landless and marginal farmers who possess approximately 70-75% of the livestock population in the State. Animal husbandry is a labour-intensive avocation that provides continuous employment for rural poor and has the potential to absorb surplus labour. Thus, the growth in livestock sector is seen as more pro-poor.

It has to be mentioned that livestock sector has never attained a negative growth during the past 34 years. Thus, the livestock sector is likely to emerge as an engine of growth in rural areas and can be relied upon for risk mitigation and loss minimization for the farmers in case of even worst outcomes from other sub-sectors. The livestock sector is considered as one of the promising sectors for enhancing farmers' incomes. As many

pockets/clusters in the State largely rely on this sector as one of the major sources of income, it is important to increase the incomes generated through livestock so as to achieve the goal of doubling farmers incomes by 2022.

Proposed Policy Initiatives

Animal husbandry and dairying constitutes an important economic activity in Tamil Nadu. Rural employment and incomes can be boosted by the growth of this sector. By modernizing and extending veterinary services and other facilities, the growth and sustainability of this sector can be assured. The livestock sector is at the hands of unorganised farming community with the exception of poultry sector. There is still a gap between the availability and requirement of fodder which is a major limiting factor in enhancing farm animal productivity. In order to invigorate this important primary sector activity that supports the agriculture incomes of the

farmers, a renewed thrust is given by the Government.

The multi pronged approach that addresses all the inherent weakness of this sector shall be continued through the following policy initiatives:

1. To identify assetless rural poor women and make them owners of income generating livestock assets and ensure their economic improvement
2. To encourage farmers to take up the entire gamut of fodder augmentation processes by providing subsidies for fodder cultivation in their own lands, procuring chaff cutters (to reduce wastage and improve digestibility) and rain guns (to minimize water usage) encourage alternate fodder resources like Azolla, alternate fodder production techniques like hydroponic fodder production, encourage fodder storage by ensiling excess fodder and produce certified fodder seeds by the departmental fodder

banks as well as through PPP mode through farmers collectives

3. To spread out poultry development activities in all the districts by encouraging small scale commercial poultry rearing through provision of subsidies
4. To provide veterinary services even in remote villages by establishing new veterinary institutions manned by veterinarians and first aid centres for provision of minor veterinary services
5. To address the future requirement of frozen semen straws by strengthening frozen semen stations with high genetic merit bulls and necessary infrastructure, cutting edge technologies like Embryo Transfer, Invitro fertilisation techniques shall be adopted to address the continuous demand for bulls
6. Upgrading production of biological products to global standards by establishing GMP compliant vaccine production labs

Consumption of livestock products is directly influenced by income levels. There is a large scope for export of livestock products in the global market. This is providing opportunities to livestock farmers to increase their incomes. Milk production has grown at more than 39 per cent, egg production has grown at more than 116 per cent and meat production has grown at more than 173 per cent during the period 2006-07 to 2017-18 in Tamil Nadu.

Significant gains in production of livestock products have been achieved through new initiatives in veterinary services and animal husbandry activities and broad basing the service delivery system. The following are the thrust areas identified:

1. **Milch Cows:** With respect to the Milch cows, per animal productivity shall be improved by interventions in the micro nutrient management and a special emphasis shall be

given to the udder health and reproductive health management of these animals. Reducing post parturient disorders shall be given priority as this is bound to improve the productive and reproductive potential of the milch cow.

2. **Small Ruminants:** The endeavour of the Department shall be to improve the "per animal production" from small ruminants and pigs with appropriate interventions in the genetic improvement coupled with addressing micronutrient requirements.

3. **Conservation of Native Livestock and Poultry:** The Department shall also place emphasis on propagating native chicken rearing besides *insitu and exsitu* conservation and breed improvement of native livestock breeds by identifying high genetic merit gene pool.

4. **Technology Transfer:** The Department shall provide suitable platforms for propagating the technologies evolved through research by Tamil Nadu Veterinary and Animal Sciences University for the benefit of the livestock farmers. Products shall also be directly sourced by the Department for the betterment of livestock health and productivity.

5. **Collaboration with TANUVAS:** Problems encountered in routine clinical practice are being addressed in collaboration with experts from TANUVAS. Policy initiatives like breeding policy, vaccination strategy, animal purchase policy, medicines procurement policy, improvement of biologicals production laboratories, disease diagnosis and control, feed certification are decided in conjunction with the inputs of TANUVAS.

6. **Livestock Insurance:** The Department shall endeavour to expand the insurance coverage to all livestock. All livestock including cattle,

buffaloes, sheep and goats, pigs and poultry shall be brought under insurance cover so as to insulate the farmers from risks due to natural calamities, diseases etc.

7. **Safeguarding Animal Rights:** The Department shall also continue to commit its obligation to safeguard the rights of animals as provided under the Prevention of Cruelty to Animals Act, 1960 and all its amendments, and as enshrined under Article 51(A)(g) of the Constitution of India.

8. **A paradigm shift in** animal health policy from curative to preventive management and improvement in delivery of livestock services. Surveillance of livestock diseases and mapping of endemic as well as non infectious diseases shall be undertaken.

9. Fostering rapid growth in livestock sector and doubling farmers' income needs **improving the investments in livestock sector**

through Public – Private Partnership as the way forward. Rural entrepreneurs shall be encouraged to invest in the livestock product supply chain. The policy now is to facilitate livestock development, targeting livestock services, provisioning markets and value chains, feed and fodder resources, and R&D to harness the pro-poor growth potential of this vital component of our rural economy.

10. A thrust shall be given through **establishing meat value chains in rural areas** which includes establishing rural slaughter houses, establishment of cold storage facilities to store meat, cost–effective vehicles for refrigerated transport of carcasses and/or meat etc. Along with these, poultry processing centres, cold storage facilities to store eggs shall also be created in rural areas in partnership with the stake holders.

11. Skill Development Programmes and Training Needs

(a) **Entrepreneurship Training:** Developing the skills of the rural livestock farmer / entrepreneur shall be a major focus area of the Department. Young educated entrepreneurs who are interested in starting careers in livestock farming and are willing to invest in this sector shall be provided entrepreneurial training on Livestock Business Management. The training programmes shall provide them with necessary tools and resources to create viable new livestock enterprises and reduce barriers to success in new livestock businesses. These initiatives increase farmers' knowledge in these areas and help them adopt practices that are profitable, environmentally sound, and contribute to quality of life.

(b) **Farmers Training**: Training on best practices on breeding, nutrition, awareness on common diseases affecting livestock and the measures to control diseases, bio-security measures, disaster management during natural calamities, clean milk production, sanitation and hygiene, modern management practices will be imparted to livestock farmers.

(c) **Trainers Training:** Training when imparted by peers shall be followed more enthusiastically. Hence a Trainers training programme shall be conducted for one educated youth from each village Panchayat. The trainers shall be imparted training on breeding, feeding and management of livestock, disaster management during natural calamities, clean milk production, sanitation and hygiene, modern management practices, disease prevention, zoonotic diseases, humane handling of animals etc.

17. BUDGET FOR 2018-19

A sum of Rs.1,227.6923 crore has been provided in the budget for 2018-19. Out of this, projected revenue expenditure is Rs.1,171.1065 crore, capital expenditure is Rs.56.3358 crore and loan amount is Rs.0.2500 crore.

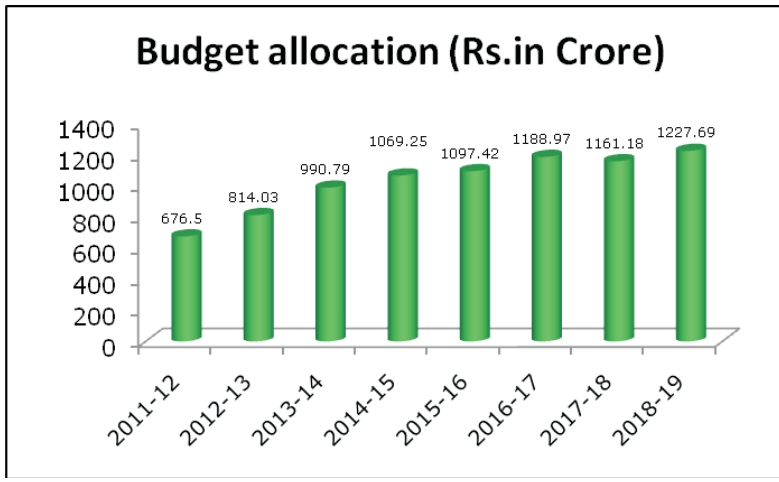
18. CONCLUSION

Tamil Nadu's Animal Husbandry Sector has had a Golden period in the last 6 years. The Schemes of Free distribution of Milch Cows, Goats and Sheep have made a major socio-economic impact on the rural poor. The Scheme for Poultry Development is creating entrepreneurs in rural areas and thus paving the way for rural prosperity besides establishing Poultry Farms in the non-poultry regions of the State. The Schemes for Fodder Development are ensuring a higher availability of green fodder for the cattle. The thrust for improving infrastructure has transformed the veterinary institution into a

knowledge resource centre. Awareness about best practices are being disseminated in the Veterinary Institution. Further, an enabling environment is provided in the Veterinary Institutions that ensures smooth delivery of services through use of modern diagnostic equipments. The continuous importance given to the animal husbandry sector by the Government of Tamil Nadu will enable the farmers of the State to double the farmers income by the year 2022 and thus achieve rural prosperity in the coming years.

UDUMALAI K. RADHAKRISHNAN

Minister for Animal Husbandry


Budget allocation (Rs.in Crore)
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1000
800
600
400
200
0
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814.03
990.79
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1097.42
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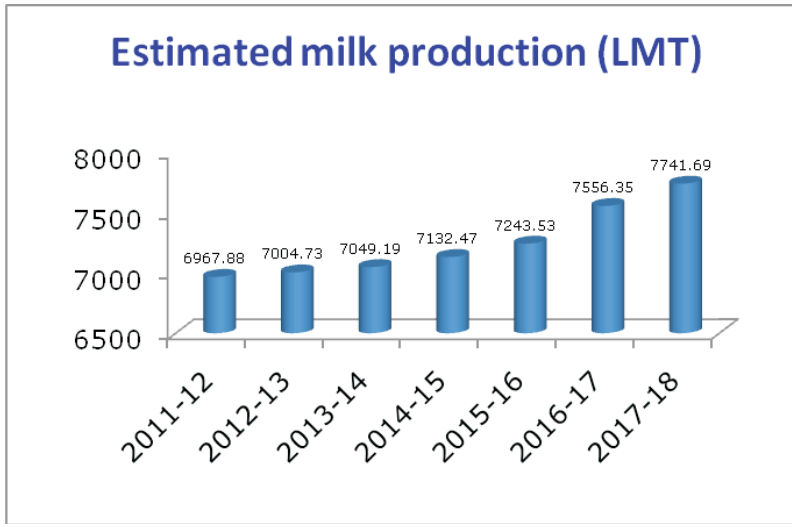
2015-16
2016-17
2017-18
2018-19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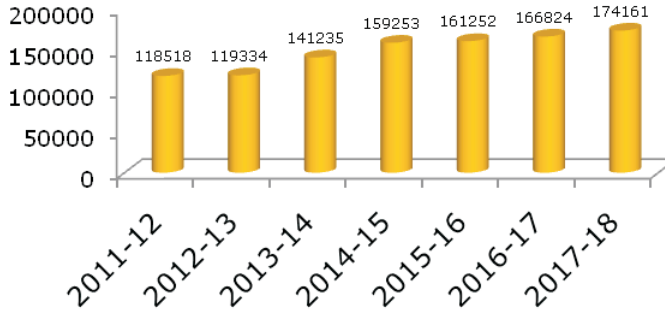
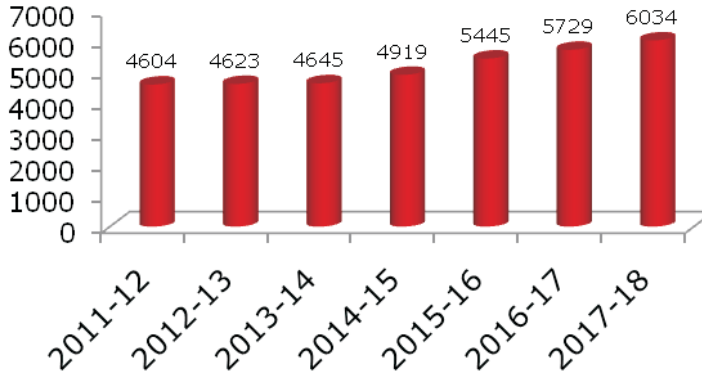
7500
7000
6500
6967.88
7004.73
7049.19
7132.47
7243.53
7556.35
7741.69
2011-12
2012-13
2013-14
2014-15
2015-16
2016-17
2017-18

Estimated egg production (lakh nos)



Estimated meat production (lakh kgs)



Hon'ble Chief Minister distributing sheep unit to beneficiaries in Salem District under the “Free distribution of Goats/Sheep Scheme”

Hon'ble Chief Minster inaugurating the Integrated Animal Husbandry and Fisheries office complex at Saidapet, Chennai on 13.3.2018

Pregnancy verification performed in livestock using ultra sound scanner

Livestock being provided treatment by the
Animal Mobile Medical Ambulance in Kancheepuram District

Hon'ble Chief Minister Inaugurated Jallikattu event at Alanganallur in Madurai District on 15.1.2018

Hon'ble Minster for Animal Husbandry and Principal Secretary to Government, Animal Husbandry, Dairying and Fisheries Department, visiting a Livestock Farm in Washington State, USA .

Co-4 variety green fodder raised in farmers own lands under State Fodder Development Scheme.