



ANIMAL HUSBANDRY

**ANIMAL HUSBANDRY, DAIRYING AND
FISHERIES DEPARTMENT**

**POLICY NOTE
2013-2014**

DEMAND NO.6

**T.K.M. CHINNAYYA
MINISTER FOR ANIMAL HUSBANDRY**

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ANIMAL HUSBANDRY DEPARTMENT POLICY NOTE 2013-14

"My Government has given special emphasis to the hitherto neglected sector of Animal Husbandry. In fulfillment of my electoral promise, the State has successfully launched a scheme of giving milch cows, goats and sheep to poor families in rural areas free of cost. This scheme has supplemented rural incomes especially of poor and has promoted an integrated approach to agriculture and animal husbandry. "

- Hon'ble Chief Minister
(Union Planning Commission meeting on 04.06.2012)

1. INTRODUCTION

Animal husbandry is an integral component of agriculture supporting livelihood of more than two-thirds of the rural population. It is one of the rapidly expanding sectors in the State, playing 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 next to family labour for the landless agricultural labourers and is the only major asset for them.

Livestock is a natural capital, that can act as a living bank with offspring as interest, and an insurance against income shocks in times of crop failure and natural calamities. Moreover, it provides nutrient-rich food products such as milk, meat, egg, draught power, dung as organic manure and domestic fuel, hides and skin, and is a regular source of cash income for rural households. In the recent decade, demand for various livestock based products has increased significantly due to increase in per-capita income, urbanization, changing taste and preference and increased awareness about food nutrition. Livestock sector is also considered as a potential sector for export earnings.

The Animal Husbandry Department plays a major role in providing veterinary health services and increasing the production potentialities of the livestock and poultry in the State. Various veterinary institutions spread over the length and breadth of the State provide these services. With the implementation of Cross breeding programmes and various other schemes by the department, livestock farming has become economically viable and remunerative to a large number of rural households in the State.

Our Hon'ble Chief Minister has given a special emphasis to improving livestock sector, and thus improve the living standard of poor rural families by launching the flagship Scheme of **"Free distribution of milch cows, goats**

and sheep" to poor women in rural areas. So far, 2,41,467 kids and 2,185 calves have born out of 10 lakh goats/sheep and 24,000 milch cows distributed to poor needy families. Further, 80,000 litres of milk is being procured by Tamil Nadu Cooperative Milk Producers' Federation every day from the Milch Cows distributed under the Scheme.

Tamil Nadu is one of the front line States in production of egg and milk in India. The estimated milk production, which was 54.74 lakh Metric Tonnes during 2005-06 in Tamil Nadu has increased to 69.68 lakh Metric Tonnes during 2011-12. Likewise, the estimated egg production, which was 6,223 million numbers during 2005-06 has increased to 11,852 million numbers during 2011-12. The per capita availability of milk per day has increased from 231 gm during 2005-06 to 262 gm during 2011-12. During the same period the per capita availability of eggs per annum has gone up from 100 numbers to 163 numbers. Tamil Nadu contributes 16.82% of egg and 5.30% of milk production and stands 2nd in egg and 8th in milk production in the country.

The livestock sector contributes substantially to the State's economy. During 2011-12, the Gross Value of Output of Livestock in the State is Rs.26,394 crores (Advance Estimate at current prices). The sector's contribution is about 2.80% to State's Gross

State Domestic Product (GSDP) and that to the agriculture and allied activities is 31.24%.

With the dedicated and sustained efforts of the department in the implementation of various beneficiary oriented development programmes and judicious utilization of animals and natural resources in an eco-balanced way, the livestock sector of the State has been elevated to a prominent position.

2. AIMS OF THE DEPARTMENT

- Upgradation of local stock of cattle and buffaloes by Artificial Insemination using exotic and cross bred frozen semen straws.
- Augmenting the production potentialities of livestock and poultry and thus increasing the production of milk, egg, meat and wool.
- Providing necessary and timely modern veterinary assistance and health cover to the livestock and poultry.
- Implementing various Central and State Government schemes for the upliftment of economic status of rural poor.
- Protecting human health by preventing major zoonotic diseases of animals.
- Conducting training courses on basic and latest animal husbandry practices for farmers and officials.

3. CHRONOLOGICAL DEVELOPMENT OF THE DEPARTMENT

- 1799** Veterinary aid in India started when East India Company of the British brought five Veterinary Surgeons from London to improve the breeding of horses and camels in India.
- 1892** Civil Veterinary Department was inaugurated as a separate department manned by Military personnel.
- 1924** Hosur Cattle Farm was taken over from army and cattle breeding station was established.
- 1948** The head of the department was designated as Director of Animal Husbandry. Artificial Insemination was introduced in the State by using Liquid Semen.
- 1959** Establishment of Mobile Veterinary Units.
- 1969** Directorate of Veterinary Education and Research was formed separately.
- 1970** The Department was reorganized.
- 1975** Introduction of Artificial Insemination with Frozen Semen.

- 1977** Animal Disease Intelligence Units were started.
- 1981** Establishment of Poultry Disease Diagnostic Laboratory at Erode.
Formation of Directorate of Veterinary Services.
- 2003** Formation of Tamil Nadu Livestock Development Agency under the National Project on Cattle and Buffalo Breeding.
- 2011-12**
- Implementation of Hon'ble Chief Minister's Special Schemes for free distribution of Milch Cows and Goats & Sheep to women headed poor families.
 - State Fodder Development Scheme launched to promote Fodder Production in a massive manner.
 - 585 Sub-centres upgraded into Rural Veterinary Dispensaries.
 - The number of Animal Husbandry Divisions has been increased from 65 to 76 to match the number of Revenue Divisions.
- 2012-13**
- **Implementation of Scheme for Poultry Development.**
 - **Creation of 5 new Joint Director offices of Animal Husbandry to match the number of districts (except Chennai).**

- **Sanction of Anthrax Spore Vaccine Laboratory and upgradation of bacterial vaccines laboratory to GMP (Good Manufacturing Practices) standards at IVP.**
- **Sanction of PDDL (Poultry Disease Diagnostic Laboratory at Palladam with GLP (Good Laboratory Practices) standards at Palladam in Tirupur District.**
- **Successful implementation of Embryo Transfer Technology at DLF, Hosur and at field level in 8 Districts.**
- **Two new Veterinary College and Research Institutes were established under TANUVAS at Orathanadu of Thanjavur District and at Tirunelveli.**

4. LIVESTOCK AND POULTRY POPULATION

Tamil Nadu has vast resources of livestock and poultry, which play a vital role in improving the socio economic conditions of the rural masses. As per the 18th Livestock Census, the distribution of livestock and poultry population, their percentage increase / decrease over previous census in the State are as follows:

Table 1: Distribution of Livestock and Poultry

Species	Population (in lakh Nos.)	Percentage to Total	Percentage Increase/ Decrease over previous census
Cattle	111.89	36.38	22.40
Buffalo	20.09	6.53	21.17
Sheep	79.91	25.98	42.86
Goat	92.75	30.15	13.43
Pigs	2.84	0.93	11.53
Others (Horses, Ponies and Donkeys)	0.11	0.03	-78.43
Total Livestock	307.59	100	23.32
Total Poultry	1,281.08	100	47.95

Tamil Nadu ranks 2nd in respect of Poultry, 4th in Sheep, 7th in Goats, 9th in Cattle and 10th in Buffalo population in the country.

5. ADMINISTRATION

The Animal Husbandry Department is under the overall control of the Director of Animal Husbandry and Veterinary Services. The Director is assisted by four Additional Directors, two Joint Directors, one Deputy Director and nine Assistant Directors in the Directorate with the allocation of different technical subjects.

The Director is assisted by an Deputy Director (personnel) in respect of administrative matters and a Financial Controller and Chief Accounts officer in respect of finance and accounts.

The State is divided into 32 districts and each (except Chennai) is under the control of one Joint Director and 76 Administrative divisions, each headed by one Assistant Director. They are responsible for all the activities of the Department within their area of jurisdiction.

One Director in the cadre of Additional Director is in charge of the Institute of Veterinary Preventive Medicine (I.V.P.M) located at Ranipet, which is engaged in the production of various livestock and poultry vaccines and other biologicals. One Central Referral Laboratory, mandated with the work of disease diagnosis, confirmation and monitoring is functioning at Chennai. The Central Referral Laboratory also coordinates the work of the 20 Animal Disease Intelligence Units and 2 Poultry Disease Diagnostic Laboratories headed by Assistant Directors functioning in various parts of the State, engaged in disease surveillance and monitoring.

The Department also manages 8 Livestock Farms, 3 Sheep Farms, 1 Poultry Farm, 1 Fodder Farm and 20 Cattle Breeding and Fodder Development Units.

Table 2: Category wise Sanctioned Strength of Posts

S.No.	Category of post	Strength
1	Director of Animal Husbandry and Veterinary Services	1
2	Additional Director	4
3	Director, Institute of Veterinary Preventive Medicine, Ranipet.	1
4	Joint Director	33
5	Senior Research Officer	3
6	Deputy Director	30
7	Assistant Director	318
8	Research Officer	7
9	Assistant Research Officer	22
10	Veterinary Assistant Surgeon	2,535
11	Research Assistant	40
12	Senior Veterinary Livestock Supervisor	165
13	Livestock Inspector Grade I	1,404
14	Livestock Inspector Grade II	1,357
15	Animal Husbandry Assistant	4,521

During 2012-13, the following measures have been taken to improve the administration in the Department:

- Five new Joint Director offices have been established at Krishnagiri, Uthagamandalam, Perambalur, Kanyakumari and Pudukottai.
- 4 Additional Directors, 33 Joint Directors, 21 Deputy Directors, one Deputy Director (Personnel), 51 Assistant Directors, 2 Research Officers, 5 Administrative officers were promoted.
- One new Administrative Officer post was created in the Directorate.
- The post of Financial Advisor and Chief Accounts officer has been upgraded as Financial Controller and one new Chief Accounts officer post was established in the Directorate.
- The Government have permitted the Department to fill 916 Veterinary Assistant Surgeon Posts and 5 Research Assistant posts, through Tamil Nadu Public Service Commission.
- 70 Livestock Inspector posts were upgraded as Senior Veterinary Livestock Supervisors.
- 154 candidates trained at District Livestock Farm, Orathanad were posted as Livestock

Inspectors. Government ordered to train and appoint 350 candidates every year from 2011-12 for 3 years as Livestock Inspectors. 330 candidates were selected for Livestock Inspectors Training, out of which, 303 candidates are presently undergoing the training at Hosur, Pudukottai and Mukundarayapuram Farms since 16.08.2012. (2011-12 Batch)

- Tamil Nadu Public Service Commission has allocated 242 candidates to this Department for recruitment as Junior Assistants (99), Typists (133), and Steno typists(10).
- Five new Bolero Jeeps were purchased and provided to five new Regional Joint Directors. Apart from these, 9 Regional Joint Directors and 15 Assistant Directors were provided with new vehicles.
- Further, 31 new Mobile Veterinary units are being provided with new jeeps.
- 413 veterinarians were given training on various aspects of Animal Husbandry and Veterinary Sciences.

6. VETERINARY SERVICES

Animal Husbandry Department plays a major role in providing superior health coverage, veterinary services and maintenance of

economically 'healthy productive cycle' as these are the key to achieve positive progress in livestock production. The professional work force of the Department provides these services through the institutional network spread across State.

6.1 VETERINARY INSTITUTIONS

6.1.1 Veterinary Polyclinics, Clinician Centres, Veterinary Hospitals and Veterinary Dispensaries

Animal health services are being provided by field Veterinary institutions totalling 2,479, which include 6 Polyclinics, 22 Clinician Centres, 139 Veterinary Hospitals, 1,671 Veterinary Dispensaries, **585** Rural Veterinary Dispensaries and 56 Mobile Veterinary Units to the entire livestock population of the State.

Of the above institutions, Polyclinics are functioning round the clock, provide specialized services in gynaecology, surgery and medicine and have in-patient facilities. In-patient facilities are also available in all Clinician Centres and Veterinary Hospitals.

Implementation of Chief Minister's flagship scheme of free distribution of Milch Cows, Sheep and Goat and various other schemes, treatment to ailing animals, Artificial Insemination, treatment of infertility cases, Vaccination,

Deworming, Castration, extension services and training to farmers are the activities carried out in these Veterinary Institutions.

National Commission on Agriculture 1976 (NCA) had recommended one Veterinary Institution for every 5,000 cattle units by the year 2000 to ensure proper health care. In Tamil Nadu, there are 162.74 lakhs cattle units, which require 3,255 veterinary institutions to fulfill the norms of NCA. Presently, 2,479 veterinary institutions are available in Tamil Nadu.

To narrow this gap, during 2012-13, the Government have established 20 new Veterinary Dispensaries. At present, on an average, each veterinary institution caters to the need of 5 Village Panchayats and 6,565 cattle units. To fulfil the recommendations of NCA new veterinary institutions are created every year. During 2013-14, 100 Subcentres will be upgraded as Veterinary Dispensaries.

6.1.2 Mobile Veterinary Units

56 Mobile Veterinary Units manned by Veterinary Assistant Surgeons provide veterinary health services like vaccination, deworming and breeding coverage like Artificial Insemination to livestock reared by farmers residing in remote areas who face difficulties in reaching veterinary institutions. These units go around their area of operation on a scheduled programme. These

units are well recognized by the public as services are provided at their doorsteps. During 2012-13, a total of 3.43 lakhs treatments and 1.19 lakh artificial inseminations have been performed by the Mobile Veterinary Units.

6.1.3 Sub-Centres

Sub-Centres, manned by Livestock Inspectors, provide first-aid to ailing animals besides, carrying out Artificial Insemination for cows and buffaloes. Livestock Inspectors' services are also utilized for vaccination and deworming under the technical guidance of Veterinary Assistant Surgeon. With the establishment of 50 new Sub-Centres during 2012-13, a total of 950 Sub-Centres are functioning throughout the State. During 2012-13, a total of 20.25 lakh livestock have been provided first aid by these Sub centres.

Table 3: Districtwise infrastructure facilities available across the State

S.No	District	Divisions	Polyclinics	Clinician Centres	Veterinary Hospitals	Veterinary Dispensaries	Mobile Units	Sub-Centres	Visiting Sub-Centres
1	Ariyalur	2	-	-	2	37	1	3	-
2	Chennai	0	1	-	1	0	1	0	-
3	Coimbatore	2	1	1	12	76	2	31	3

S. No	District	Divisions	Polyclinics	Clinician Centres	Veterinary Hospitals	Veterinary Dispensaries	Mobile Units	Sub-Centres	Visiting Sub-Centres
4	Cuddalore	3	-	1	5	73	1	64	-
5	Dharmapuri	2	-	1	2	59	2	7	1
6	Dindigul	3	-	1	5	82	1	81	1
7	Erode	2	-	2	6	94	3	21	-
8	Kancheepuram	4	-	2	1	87	2	44	1
9	Kanyakumari	2	-	1	2	48	2	16	-
10	Karur	2	-	1	2	48	1	25	-
11	Krishnagiri	2	-	1	2	58	1	15	6
12	Madurai	2	1	-	4	68	1	75	-
13	Nagapattinam	2	-	2	3	64	2	18	-
14	Namakkal	2	-	-	4	89	3	7	3
15	Perambalur	1	-	-	-	31	-	5	-
16	Pudukottai	2	-	1	4	73	2	37	-
17	Ramanathapuram	2	-	-	4	52	-	14	2
18	Salem	4	1	-	6	125	6	7	5
19	Sivagangai	2	-	-	2	68	-	50	-
20	Thanjavur	3	-	2	6	94	3	31	3
21	The Nilgiris	2	-	1	2	20	3	16	2
22	Theni	2	-	-	3	43	1	54	5

S. No	District	Divisions	Polyclinics	Clinician Centres	Veterinary Hospitals	Veterinary Dispensaries	Mobile Units	Sub-Centres	Visiting Sub-Centres
23	Thiruppur	3	-	-	7	83	1	40	-
24	Thiruchirappalli	3	1	-	8	87	2	33	2
25	Thirunelveli	3	1	-	7	98	1	32	-
26	Thiruvallur	3	-	-	5	76	1	30	1
27	Thiruvannamalai	2	-	1	5	97	3	31	-
28	Thiruvarur	2	-	1	7	60	1	37	-
29	Thoothukudi	3	-	1	2	62	1	39	1
30	Vellore	3	-	1	8	105	4	30	6
31	Villupuram	4	-	1	7	135	4	24	2
32	Virudhunagar	2	-	-	5	64	-	33	11
TOTAL		76	6	22	139	2,256	56	950	55

6.2 DISEASE PREVENTION, DIAGNOSIS, CONTROL AND ERADICATION

Maintenance of sound health is an essential requisite for ensuring productivity of livestock. Laboratory confirmation of diseases is essential and mandatory following the diagnosis based on clinical manifestations. Isolation and identification of the causative agent will provide early warning signals of emergence of new

strains, existing field strains, chances of mixed infections and also to develop geographical maps for disease occurrence and its pattern. Based on the epidemiological data thus available, disease forecasting for timely vaccination has been made possible as "Prevention is always better than Cure".

To perform the above activities, this department has 20 laboratory based Institutions called as Animal Disease Intelligence Units (ADIUs) at district level covering 32 districts, besides 2 speciality laboratories for Poultry called Poultry Disease Diagnostic Laboratories (PDDLs) located in the poultry belts of Tamil Nadu at Andagalurgate in Namakkal district and Erode in Erode district. The State level apex laboratory at Chennai known as Central Referral Laboratory co-ordinates with the District level laboratories during disease outbreaks and gives technical guidance in disease diagnosis and control.

6.2.1 Animal Disease Intelligence Units

These Laboratories 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 FMD, PPR etc; These are also responsible for monitoring the efficiency of vaccination, assess the 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.,

With respect to Public health, the Animal Disease Intelligence Units (ADIUs) are involved in Monitoring the slaughter houses for hygienic practices, ensuring Preparedness to Avian Influenza, keeping vigil on the wet markets of poultry, backyard and commercial farms of Poultry and weekly visits of bird sanctuaries and water bodies for any alarming levels of unusual mortality.

They also have a role in improving the livestock production by quality checking of semen straws, checking the blood parameters and micro nutrients like Calcium, Phosphorous and Potassium so as to aid the institutions in treatment of deficiency disorders and metabolic disorders.

To provide the door to door diagnostic services at village level and to deliver vaccines and biologicals without compromising the cold chain, Mobile Veterinary Laboratories are provided to these Units. These mobile laboratories are able to provide on the spot microscope aided diagnosis for certain livestock / poultry diseases.

Table 4: List of Animal Disease Intelligence Units

S. No	Animal Disease Intelligence Unit	Districts covered
1	Coimbatore	Coimbatore, Tiruppur
2	Cuddalore	Cuddalore
3	Dharmapuri	Dharmapuri
4	Dindigul	Dindigul
5	Erode	Erode
6	Kancheepuram	Chennai, Kancheepuram, Tiruvallur
7	Karur	Karur
8	Krishnagiri	Krishnagiri
9	Madurai	Madurai, Theni
10	Nagapattinam	Nagapattinam, Tiruvarur
11	Salem	Salem, Namakkal
12	Sivagangai	Sivagangai, Ramanathapuram
13	Thanjavur	Thanjavur, Pudukottai
14	Thoothukudi	Thoothukudi
15	Tiruchirapalli	Tiruchirapalli, Perambalur, Ariyalur
16	Tirunelveli	Tirunelveli, Kanyakumari
17	Udhagamandalam	Udhagamandalam
18	Vellore	Vellore, Thiruvannamalai
19	Villupuram	Villupuram
20	Virudhunagar	Virudhunagar

The laboratories are well equipped with basic and sophisticated instruments like haem analyser, urine analyzer, Biochemical analyzer etc., and walk in coolers for storage of Biologicals and vaccines.

During 2011-12, 3,77,941 specimens have been tested by these units. During 2012-13, 3,99,183 specimens have been tested.

6.2.2 Poultry Disease Diagnostic Laboratories

Poultry Disease Diagnostic Laboratories cater to the needs of the poultry farmers in areas of high poultry production. They are involved in diagnosis of poultry diseases by conducting post mortem, testing of droppings, blood samples and other specimens for major diseases including the viral diseases such as New Castle Disease, IBD, IB, Avian Leucosis Complex, common Bacterial diseases like Salmonella, E.Coli, and Parasitic Infestations. They also render services for feed and water samples testing.

Sero monitoring and surveillance for Poultry Diseases are carried out by these laboratories covering both commercial and back yard poultry farms. Strict vigil over mortality and transport of poultry in view of preparedness over Avian Influenza is one of the major responsibilities of these laboratories.

In addition, they monitor the Poultry farms for the Biosecurity measures and render technical advice to farmers for prevention, and control of various infectious and parasitic diseases. These laboratories play an important role in the protocol for compartmentalization when Commercial farms apply for declaration of Bio secured compartments towards free from the risk of Highly Pathogenic Avian Influenza as mandated by Government of India.

All the base level monitoring and testing works with flock identification as Disease free establishment is carried out by Poultry Disease Diagnostic Laboratories (PDDLs) so as to issue Animal Health Attestation certificate for Export purpose by Central Referral Laboratory.

These laboratories also act as local depot of Poultry Vaccines produced at Institute of Veterinary Preventive Medicine (IVPM), Ranipet and enable the farmers for timely vaccination.

During 2012-13, 899 poultry farms and 556 villages have been visited and 10,691 samples have been examined.

Government of India has decided to set up BSL II laboratories in each State to screen serum samples as part of routine surveillance of Avian influenza. The Poultry Disease Diagnostic Laboratories (PDDLs) at Andagalurgate and Erode are the two laboratories that are being upgraded as BSL (Bio Safety Level) II

laboratories in our State. For setting up of BSL II laboratories, Rs. 22 lakhs has been allotted to each Poultry Disease Diagnostic Laboratories (PDDLs) for the various components.

The upgraded laboratories will test serum samples as preliminary screening for antibodies against Avian influenza and forward the positive samples to referral laboratories for further confirmation.

During 2012-13, the Government have ordered establishment of new Poultry Disease Diagnostic Laboratory (PDDL) with BSL II and GLP laboratory facility at Palladam, Tirupur District, under National Agricultural Development Programme.

6.2.3 Central Referral Laboratory

Central Referral Laboratory is the apex laboratory of the State and plays a major role in disease confirmations by Office International Epizootics (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. 5,496 specimens received from the field have been tested and results communicated during 2012-13. 9 outbreaks were attended by Central Referral Laboratory experts. Central Referral Laboratory, during its

investigation for the first time reported incidence of Malignant Catarrhal Fever in Bovines in Tamil Nadu in a specific belt of Namakkal region. Screening of farm animals for zoonotic diseases such as Tuberculosis by PPD Intradermal test, Brucellosis and Johne's disease by Enzyme Linked Immuno Sorbent Assay (ELISA) test, sending samples for Bovine Spongiform Encephalitis (BSE) surveillance to Southern Regional Disease Diagnostic Laboratory (SRRDL), testing of samples received for Sero surveillance for Peste-des-Pestis Ruminants (PPR) and sero monitoring of Brucella have also been carried out in this laboratory. This laboratory also deals with issuance of health certificates for products from animal origin for export purpose.

During this year, 2 brain samples have been sent to Southern Regional Disease Diagnostic Laboratories (SRDDL), Bangalore for BSE surveillance. As per the Government of India guidelines, during 2012-13, 5,296 samples have been sent to Southern Regional Disease Diagnostic Laboratories (SRDDL), Bangalore for screening of Avian Influenza.

6.2.4 Institute of Veterinary Preventive Medicine, Ranipet (IVPM)

This Institute, originally known as "Serum Institute" was established at Madras during 1932 to produce Anti-Rinderpest serum and bull virus to combat Rinderpest which was rampant then,

posing serious threat to livestock population. In 1942, the Institute was shifted to Coimbatore Agricultural College estate as an emergency measure due to World War II. In March 1948, the Institute was shifted to the present campus of 129.5 acres at Ranipet facing the National Highway No.4 at a distance of 115 km from Chennai.

At present, the Institute is producing 4 bacterial vaccines, 5 viral vaccines, 5 diagnostic reagents, 9 Pharmaceutical products and one diluent. In addition, Indian Council of Agricultural Research aided "All India Coordinated Research Project (AICRP) on Foot and Mouth Disease (FMD) is under operation in this Institute to undertake virus typing and sero-monitoring of vaccinated animals under Foot and Mouth Disease (FMD) Control Programme.

To meet International Standard in Vaccine Production, upgrading the vaccine manufacturing laboratories to the standards of Good Manufacturing Practice (GMP) is mandatory. As a first step, the poultry vaccine production laboratory in the institute is GMP compliant. The remaining vaccine production laboratories and quality control division at the Institute are being upgraded to Good Manufacturing Practices (GMP) Standards.

Under National Agriculture Development Programme (NADP), the Bacterial Vaccine Production Laboratories and Quality Control divisions of the Institute are being upgraded to Good Manufacturing Practice (GMP) Standards at a total cost of Rs.7.52 crores and to augment the production of Anthrax spore vaccine, funds to the tune of Rs. 11.31 crores have been allotted to construct and establish a modern laboratory of Good Manufacturing Practices standards at Institute of Veterinary Preventive Medicine (IVPM), Ranipet as laid down by the World health Organization (WHO). The work is under progress.

7. SCHEMES

The Schemes of the Animal Husbandry Department have been formulated in pursuance to the well laid national policies to improve the livestock production, to fight protein hunger and to improve nutritional standards of human population.

7.1 STATE SPONSORED SCHEMES

7.1.1 SCHEME FOR FREE DISTRIBUTION OF MILCH COWS

As per the announcement of Hon'ble Chief Minister on 09.07.2011, the Flagship Scheme of distribution of free Milch Cows is being implemented as per the prescribed schedule from the year 2011-12. Accordingly, the Government

have programmed to distribute Free Milch Cows to 60,000 beneficiaries over a period of 5 years. Thus, under the Scheme about 12,000 Milch Cows of Cross Bred Jersey/ Cross Bred Holstein-Friesian breeds would be distributed each year to the poor needy families in the rural areas.

Salient Features

- ❖ The Scheme is prioritized in 21 Districts that are milk deficient and where the number of Milk Cooperative Societies are lesser.
- ❖ The distribution of Milch Cows is taken up in Village Panchayats where there are no Primary Milk Cooperative Societies. Consequently, after the distribution, Primary Milk Cooperative Societies are formed in such Village Panchayats.
- ❖ Lactating cows that are in their first/second lactation which are less than 5 years old only, are procured.
- ❖ The actual beneficiary will be the women of the household and cows are procured at the rate of one cow per eligible household.
- ❖ The Milch Cows are sourced from outside the State only and purchased by the beneficiaries themselves.
- ❖ An amount of Rs. 30,000 is earmarked for the purchase of a Milch Cow per beneficiary.
- ❖ An amount of Rs. 1,000 is allocated for travel of beneficiary to the shandy of the neighbouring State to purchase the animal

- ❖ Rs. 2,000/ Rs. 3,000 (depending on the distance) is earmarked for the transportation of the animal to their village.
- ❖ Insurance of the animals is undertaken at Government cost.

Eligibility Criteria

The selection of beneficiaries is done by the Grama Sabhas concerned after the initial short listing by a Village Level Committee. Some of the common criteria are:

- ❖ Women headed households are to be given priority. (Widows, Destitutes, Disabled women and Transgender are to be given priority).
- ❖ Beneficiaries are to be a permanent resident of the Village Panchayat concerned and below 60 years of age.
- ❖ At least 30% of the beneficiaries from the Village Panchayat should necessarily belong to the SC/ST Communities.
- ❖ Beneficiaries are not to be employees of Central/State Government or any organization/co-operative or member of any local body (nor should their spouse or father / mother / parents-in-law / son / daughter / son-in-law / daughter-in-law be so).
- ❖ Beneficiary should not own land over 1 acre in their own name or family members' name.

Achievement during 2012-13

- ❖ The Scheme has been implemented in 21 Districts. 12,000 milch cows have been given to 12,000 beneficiaries.
- ❖ Milk Cooperative Societies have been formed and milk procurement started from all the Villages where the Milch Cows are distributed. Instructions have also been given to give part of the payment of milk in terms of cattle feed so as to improve the nutritional status of the animals.
- ❖ Training in rearing of animals is being imparted to the beneficiaries concerned and Veterinary Services are being rendered at the doorsteps of the beneficiaries monthly by the Veterinary Assistant Surgeons of this department.
- ❖ The Milch Cows distributed under this Scheme have given birth to 2,185 calves so far.
- ❖ 80,000 litres of milk is being procured by the Aavin network from the beneficiaries of the scheme on every day.
- ❖ The department is organizing mass vaccination against diseases like Foot and Mouth disease.
- ❖ In order to ensure sound health of the Milch Cows distributed, Reproductive Camps and Mass Deworming camps are held once in 3 months in the villages of the beneficiaries.

7.1.2 SCHEME FOR FREE DISTRIBUTION OF GOATS/SHEEP

The Hon'ble Chief Minister also announced the implementation of a '**Scheme for Free Distribution of Goats/Sheep**' to the poorest of the poor in the State in order to improve their standard of living. Under this Scheme, 4 Goats/Sheep are to be given free of cost to 7 lakh poorest of poor rural landless families over a period of 5 years. During last 2 years, 10 lakh sheep /goat have been distributed to 2.5 lakh beneficiaries.

Salient Features

- ❖ Out of 4 Goats/Sheep given to each beneficiary, one is male and 3 females. All the Goats/Sheep are to be about 6 months of age.
- ❖ The Goats/Sheep are permitted to be purchased by the beneficiaries themselves from the local market shandies within the State/ from breeders supplying good quality Goats/Sheep/ from the neighbouring State shandies in case of the bordering Districts.
- ❖ The actual beneficiary will be the Woman of the household.
- ❖ An amount of Rs. 2,500 is earmarked for the purchase of a Goat/Sheep.
- ❖ In addition, Rs. 500 is earmarked as the seed money for the construction of shed/ procurement of nutrients per animal.

- ❖ Further Rs. 150 per beneficiary is earmarked for transportation of the animals from shandy to the village.
- ❖ Insurance of the animals is done at Government cost.

Eligibility Criteria

The selection of beneficiaries is done by the Grama Sabhas concerned after the initial shortlisting by a Village Level Committee. Some of the common criteria are:

- ❖ Women headed households are to be given priority. (Widows, Destitutes, Disabled women and Transgender are to be given priority).
- ❖ Beneficiaries are to be a permanent resident of the Village Panchayat concerned and one of the members of the household to be 18-60 years of age.
- ❖ At least 30% of the beneficiaries from the Village Panchayat should necessarily belong to the SC/ST Communities.
- ❖ Beneficiaries are not to be employees of Central/State Government or any organization/co-operative or member of any local body (nor should their spouse or father / mother / parents-in-law / son / daughter / son-in-law / daughter-in-law be so).
- ❖ Beneficiary must be landless Agriculture labourers.

Achievement during 2012-13

- ❖ The Scheme has been implemented in 31 Districts.
- ❖ Training in rearing of animals is being imparted to the beneficiaries concerned and post purchase follow up Veterinary Services are provided at the doorsteps of the beneficiaries monthly.
- ❖ 1.50 lakh families were provided with 6.00 lakh Goats/sheep during 2012-13.
- ❖ From the inception to So far, 2.41 lakhs kids have born out of 10 lakhs Goats / Sheep distributed.
- ❖ In order to ensure sound health of the Goats/Sheep distributed, Mass Deworming Camps are held once in 3 months in the villages of the beneficiaries.

7.1.3 SCHEME FOR POULTRY DEVELOPMENT

The Government of Tamil Nadu have launched a SCHEME for development of Poultry Clusters in the non poultry backward regions of the State at a total cost of Rs. 22.35 crores. Out of this total cost, Rs. 20.31 crore is allocated for establishing broiler layer units in 7 districts, benefitting 230 beneficiaries per district and Rs.2.04 crore is allocated for Native Chicken unit in 16 districts benefitting 35 beneficiaries per district on an average.

Broiler / Layer project is being implemented in Sankarankoil and Villupuram Regions of the State. Sankarankoil Region includes suitable areas in Tirunelveli, Thoothukudi and Virudhunagar Districts. Likewise, Villupuram Region includes suitable areas in Villupuram, Cuddalore, Ariyalur and Perambalur Districts.

Native Chicken rearing is encouraged in the Districts of Dindigul, Dharmapuri, Kancheepuram, Kanniyakumari, Karur, Krishnagiri, Madurai, Nagapattinam, Pudukottai, Ramanathapuram, Sivagangai, Thanjavur, Tiruvarur, Tiruvallur, Tiruchirappalli and Vellore. Under this scheme, a total of 560 beneficiaries in 16 districts (35 beneficiaries / district) are benefitted.

The intervention of the State Government is in the form of providing 25% front ended subsidy for establishing Poultry farms. It is proposed to involve NABARD and commercial / Nationalised banks in the implementation of the Scheme. The Scheme will be integrated with the existing Poultry Venture Capital Fund of the Government of India, wherein 25% back ended subsidy is provided by NABARD to the individuals. The individual / farmer/ entrepreneur has to raise the rest of the funds through his own sources or through bank loans.

Farmers, individual entrepreneurs and Self Help Groups are eligible. An individual is eligible for availing assistance only once for each component. However if a beneficiary has already put up a shed with his own cost, he can also avail assistance under this scheme for putting up new shed. The name of the Broiler / Layer / Native Chicken farm beneficiary should originally be recommended by an Integrator of repute and a Nationalised / Commercial Bank / Cooperative bank who should be willing to fund the beneficiary. The beneficiaries will be provided with 5 days training on commercial native poultry rearing through TANUVAS.

Broiler and Layer Rearing:

Broiler Chicken rearing can be undertaken through integration wherein, integrators supply day old chicks and feed required for the birds. The integrators also ensure that the birds are marketed through their own channels. A broiler farm with strength of upto 5,000 birds can be profitably run using the family labour alone and thus negates the requirement of additional man power.

Rearing of layers has developed into a highly organized, fully automated capital intensive enterprise that requires considerable expertise. Presently, layer farming under intensive system of rearing is suggested under "all-in-all-out" system of rearing wherein a full batch of day old chicks are reared upto 72 weeks of age.

Under Broiler rearing Scheme so far, 381 beneficiaries have started constructing sheds, out of which 135 poultry sheds have been completed in which 1st batch of chicks were released in 71 farms.

Native Chicken Rearing:

Native chicken rearing is also encouraged on a smaller scale wherein a flock size of about 250 birds can be profitably reared and marketed by the farmer himself. The beneficiary is encouraged to have tie up with Native Chicken Breeders/ Hatchery units for a regular supply of chicks at mutually agreed prices and the beneficiary himself can do the rearing and marketing since Native Chicken meat and eggs have a good market throughout the State. So far, 425 beneficiaries have started construction, out of which 339 poultry sheds have been completed in which 1st batch of chicks were released in 267 farms.

7.1.4 STATE FODDER DEVELOPMENT SCHEME (SFDS)

Under this Scheme, during 2012-13, 16,000 acres of farmers lands were brought under high yielding fodder grass under irrigated condition at a financial outlay of Rs.19.20 crores benefitting 44,363 farmers across the State. Through this cultivation, about 16 lakh MT of fodder will be produced every year.

In order to educate the farmers in maximizing fodder output with limited land and ensuring quality of feed, beneficiaries of this scheme were trained on fodder cultivation practices and better utilization of available fodder.

Further under the scheme, production of fodder slips was taken up in 5 Departmental farms viz District Livestock Farm, Hosur, District Livestock Farm, Abishegapatti, Chinnasalem Sheep Farm, Mukundarayapuram Sheep Farm and Exotic Cattle breeding Farm, Eachenkottai @ 10 acres in each farm totaling 50 acres. Every year 5 crore fodder slips will be produced at the rate of 1 crore slips from each farm and will be distributed to the farmers free of cost.

The total financial outlay of the scheme is Rs. 20 crores.

7.1.5 STRENGTHENING OF INFRASTRUCTURE AND RENOVATION OF EXISTING BUILDINGS SCHEME

To ensure better veterinary health delivery system, during 2012-13, strengthening of Infrastructure and Renovation of Existing Buildings Scheme was taken up. Government have sanctioned Rs.22.00 crores for maintenance and renovation work of 402 veterinary institutions / monitoring units and 3.00 crores for

the provision / replacement of furniture to the existing needy veterinary institutions.

7.1.6 KALNADAI PADHUKAPPU THITTAM

Kalnadai Padhukappu Thittam is being implemented in the State since January 2000. Under this Scheme, Camps are conducted at the rate of one camp per month in all the 385 Panchayat Unions at a cost of Rs.4,200/- per camp.

In the camp, total health cover is provided to livestock and poultry reared by farmers in remote villages where veterinary facilities are inadequate by conducting special camps, free of cost. It is also used as a platform for propagating schemes like Free distribution of milch cows, sheep and goats and fodder development schemes. An exhibition depicting various livestock diseases and preventive measures, fodder development measures, calf rally along with demonstration are also conducted for creating awareness among the farmers.

The camps are conducted under the direct supervision of the divisional Assistant Directors and monitored by the concerned Regional Joint Directors. A team of Veterinarians and Para veterinarians working in the Panchayat Union and nearby Panchayat Unions are involved in conducting the camps.

In the calf rally, prizes worth of Rs. 400/- per camp is being distributed to the best calves. The beneficiaries are all livestock rearers in the villages and nearby villages where the camps are conducted.

During the year 2012-13, 5,500 camps were conducted, 67.08 lakh animals benefitted and 8.42 lakh farmers benefitted. For the year 2013-14, 5,500 camps will be conducted at a total cost of 2.31 crores.

Table 5: Species wise animals benefitted in KPT camps during 2012-13

Sl. No	Details	Number
1	No. of animals Benefitted	(In Lakhs)
	a. Cattle	18.39
	b. Buffaloes	2.01
	c. Goats	18.59
	d. Sheep	17.26
	e. Other Livestock	0.61
	f. Poultry	10.22
	Total	67.08
2	No. of Farmers benefitted	8.42
3	Calf Rally (No of Calves participated)	1.38
4	Average animal attendance /camp	1,220 (Nos.)

7.1.7 PART II SCHEME

During the year 2012-13 under Part II Scheme, to improve the administration,

- ➔ 9 Joint Directors of Animal Husbandry and 15 Assistant Directors of Animal Husbandry have been provided with new vehicles at a total cost of Rs.54 lakhs and Rs.93.00 lakhs respectively.
- ➔ 7 Computers along with UPS and Printers provided to the Directorate at a total cost of Rs.3.50 lakhs. Out of the 4 copiers purchased, 2 Copiers were provided to the Directorate and one each to the Joint Directors' Offices of Tiruppur and Namakkal at a total cost of Rs.4.00 lakhs.

During 2013-2014, to equip additional veterinary facilities at Coimbatore, Madurai Salem, Trichy and Tirunelveli Veterinary Polyclinic and to establish X-ray unit at Coimbatore Veterinary Polyclinic at a total cost of Rs. 45 lakhs and for the conservation of native breeds Umbalacheri, kangeyam and Burgur conducting workshop and exhibition at a cost of Rs. 10 lakhs has been provided under Part II scheme.

7.1.8 WESTERN GHAT DEVELOPMENT PROGRAMME

During the year 2012-2013 the Government have provided a sum of Rs. 2.56 crores for the implementation of the following Animal Husbandry activities under WGDP in the Districts of Coimbatore, Dindigul, Kanniyakumari, Tirupur, Theni, Tirunelveli, Madurai and Virudhunagar.

- ✓ Distribution of cross bred Heifer calves with 50% subsidy to 314 beneficiaries.
- ✓ Distribution of concentrate feed to the Heifer calves with 100% and 75 % subsidy to 364 beneficiaries.
- ✓ Supply of Giriraja birds at 50% subsidy to 1,444 beneficiaries. Each beneficiary supplied with 10 birds (9+1)
- ✓ Supply of sheep units for 40 beneficiaries (4+1) and Goat units for 70 beneficiaries (4+1) at 50% subsidy.
- ✓ 5 Nos infertility camps conducted.
- ✓ Establishment of 4 new hatchery units at Kodaikanal in Dindigul district. Vaigai Dam in Theni district, Nanguneri in Tirunelveli district and Udumalaipet in Tiruppur district.

7.1.9 HILL AREA DEVELOPMENT PROGRAMME

During the year 2012-13, the Government have sanctioned Rs.32.83 lakhs for the

implementation of various Animal Husbandry activities in the Nilgiris District under Hill Area Development Programme. 4,800 beneficiaries selected for the supply Giriraja Birds at 25% subsidy (10 birds per beneficiary).

7.1.10 INTENSIVE HEALTH COVER PROGRAMME

Endoparasites cause many health problems in sheep. As Sheep are reared mainly by grazing, they are prone to parasitic infestations. This results in weight reduction, delayed maturity, high mortality rate, low fertility rate etc., apart from making them susceptible to other diseases. This also affects the quality of skin, meat and carcass yield.

Considering the deleterious impact of endoparasites, small ruminants have to be dewormed periodically. For this purpose the department is implementing an Intensive Health Cover Programme for small ruminants like sheep and goats since the year 1982-83. Under this Programme, the sheep and goats maintained by poor farmers in all the districts except Chennai, are dewormed once in 3 months at their doorsteps. During the year 2012-13, the Programme was implemented using various deworming drugs worth Rs.40.00 lakhs.

7.1.11 NATIONAL BANK FOR AGRICULTURE AND RURAL DEVELOPMENT (NABARD- RIDF XVII)

Under NABARD (RIDF XVII) fund, the following infrastructural works are being undertaken at a total cost of Rs.122.24 crores:

- Construction of buildings for 337 Veterinary Dispensaries
- Construction of buildings for 13 Veterinary Hospitals
- Construction of two Polyclinics
- Construction of new buildings for 3 Animal Disease Intelligence Units.
- Construction of buildings for Frozen Semen Banks at five places.
- One NABARD Scheme Monitoring Cell at the Directorate of Animal Husbandry, Chennai.
- Infrastructure development in 12 District Livestock Farms.

7.1.12 CONSTRUCTION OF BUILDINGS FOR 20 NEW VETERINARY DISPENSARIES

The Government have sanctioned Rs.6.00 crores for the construction of 20 new Veterinary Dispensaries which were announced during 2012-13 budget. The work is under progress.

7.2 CENTRALLY SPONSORED SCHEMES

7.2.1 NATIONAL AGRICULTURAL DEVELOPMENT PROGRAMME (NADP)

During 2012-13, the following activities are being conducted at a total cost of Rs. 30.77 crores.

- ➔ To augment the production of Anthrax spore vaccine, funds to the tune of Rs. 11.31 Crores have been allotted to construct and establish a modern laboratory of Good Manufacturing Practice (GMP) standards at IVP, Ranipet as laid down by the World Health Organization.
- ➔ A sum of Rs. 2.63 Crores has been allotted for establishment of Poultry Disease Diagnostic Laboratory (PDDL) at Palladam, Tirupur district. This will assist the broiler farmers in the zone, through periodical collection of specimens and by conducting advanced diagnostic tests which will ensure food security.
- ➔ To ensure that farmers in remote villages get necessary veterinary assistance and breeding support at their door step a sum of Rs. 2.05 Crores has been allotted under the scheme " Establishment of 31 mobile Veterinary Units".

- A scheme titled " Provision of facilities for improved delivery of Veterinary services in rural areas of Tamil Nadu" at an outlay of Rs. 13.27 Crores has been sanctioned to newly construct 85 Veterinary Dispensaries to ensure that the Veterinary Institution apart from functioning as a clinic, providing succor to the needy animals and also functions as a knowledge resource centre where best practices are disseminated to the farmers.
- "Improvement of Animal Husbandry practices at Village through need based outreach program" was successfully completed during the Uzhavar Peruvizha held in April – May 2012 at a cost of Rs.1.51 Crores to create awareness among farmers about scientific livestock management, breeding techniques, feed and fodder management and disease control. Under this programme, 6,636 camps were conducted, 38.40 lakhs animals and 8.91 lakhs farmers were benefitted.

7.2.2 NATIONAL MISSION FOR PROTEIN SUPPLEMENT (NMPS)

Enthused by the success of the scheme "**Development of Goat for protein supplement**" during 2011-12 and to ensure year round availability of animal protein for consumers and to maximize economic returns to

farmers, under the 'Development of Goat for enhancing animal protein supplement scheme' Rs.4.50 crores was allotted towards '**Promoting Intensive Goat Production**'. As per the scheme 8 Self Help Groups with 9 beneficiaries from each group were selected from each district. Each beneficiary was provided with 10 Goats and assistance in the form of concentrate feed, construction of shed, insurance of the animals and training, free of cost. The Scheme is being implemented in 15 districts.

7.2.3 FODDER DEVELOPMENT UNDER NADP

During 2012-13, the following fodder development activities were undertaken at a total cost of Rs. 13.17 crores.

(i) Cultivation in Farmers' Land

To meet the green fodder requirement and to encourage more number of farmers to take up fodder cultivation, 2,000 acres of farmers lands were brought under fodder crop cultivation at an outlay of Rs. 2.40 Crores by providing incentive of Rs. 3,000 per 25 cent at 100% financial assistance. This is being implemented in 10 districts viz Coimbatore, Erode, Thirupur, Salem, Karur, Namakkal, Dharmapuri, Dindigul, Villupuram and Madurai. It is estimated that 2 lakh MT of green fodder will be produced every year in this programme.

(ii) Strategies for short term management of Fodder Requirement

a. Ensiling of fodder through Milk Co operative societies and in Departmental Farms

In order to meet fodder demand, it is proposed to ensile sugarcane tops or available fodder through Milk Co-operative societies @ 2 societies/ district in Krishnagiri, Villupuram, Trichy, Tirunelveli and Sivagangai at a cost of Rs.5 lakhs. Similarly, ensiling is also proposed at Chinnasalem Sheep Farm, Mukundrayapuram Sheep Farm, Hosur District Livestock Farm and Korukkai Livestock Farm at a cost of Rs.10 lakhs to supply silage to the nearby villages

b. Propagation of Azolla

As Azolla is a favoured and efficient feed substitute for livestock, 290 Azolla units per district have been established with 100 % assistance in 27 districts excluding Chennai, Nilgiris, Kanyakumari, Erode and Tirunelveli at a financial outlay of Rs.1.01 Crores.

(iii) Establishment of Fodder Seed Production Unit and Farmers' Training Centre

To bridge the gap between availability and requirement of green fodder and to bring more area under fodder crops cultivation by producing

quality fodder seeds, fodder seed production Unit is being established in 350 acres in Orathanad District Livestock Farm at Echenkottai. In addition, a training centre is also being established in Orathanad District Livestock Farm at Echenkottai to impart training on latest technologies in fodder production to the farmers. The total financial outlay of this project is Rs.9.60 Crores.

7.2.4 ACCELERATED FODDER DEVELOPMENT PROGRAMME

Under Accelerated Fodder Development Programme 2012 -13, the following components are to be implemented at a total cost of Rs.10 Crores.

A. Cultivation of high yielding fodder crops in farmers' holdings in 8 delta districts

In order to increase production and productivity of green fodder and to ensure fodder availability in delta districts, it is proposed to cultivate high biomass yielding Cumbu Napier Hybrid (Co3/Co4) in 4,166 acres in 8 delta districts. The farmers selected will be provided financial assistance of Rs.3,000 per unit of 0.25 acre as 100% subsidy.

B. Cultivation of Cereal Fodder crop Sorghum and Leguminous Fodder crop Cowpea in non-delta districts

In order to ensure that both leguminous and non leguminous fodder crops available to animals, it is proposed to bring 5,376 acres under Cereal fodder sorghum and leguminous fodder cow pea cultivation in non-delta districts. 100% financial assistance of Rs.2,000 will be provided per unit of 0.25 acres.

C. Establishing Silage making Units

Silage is preserved pasture. Making silage is an important way for farmers to feed cows and sheep during the dry season. It is programmed to ensile available fodder crops like sorghum, maize / sugarcane tops, which are usually wasted and burnt in the field to convert it as silage during flush period for feeding livestock during lean period.

It is proposed to establish 160 silage making units across the State at Rs.25,000 per unit. 100% financial assistance will be provided for construction of silo pit and input materials while 75% financial assistance will be provided for power operated chaff cutters.

D. Augmenting Fodder Development in District Livestock Farm, Uthagamandalam

Uthagamandalam, District Livestock farm is an ISO certified Frozen semen straw producing station, where quality cross breed cattle straws are produced and distributed to all the districts in the state for Artificial Insemination. To ensure availability of Fodder for feeding the farm animals throughout the year, it is proposed to bring 42 acres of land into Oats and maize cultivation at the financial outlay of Rs.20.00 Lakhs.

7.2.5 CENTRAL MINIKIT TESTING PROGRAMME

To popularize the latest improved fodder varieties amongst the farmers for fodder production and to encourage the farmers to produce quality green fodder, various varieties of fodder seeds are distributed to the farmers free of cost . During Khariff 2012-13, 3,485 fodder seed minikits of different crops have been distributed to the farmers.

7.2.6 FOOT AND MOUTH DISEASE CONTROL PROGRAMME

Foot and Mouth disease is an acute febrile highly contagious disease of cloven footed animals. It causes severe ulcers in mouth and in between cloves of cloven footed animals. It

leads to heavy economic loss due to reduction in milk production, infertility and high mortality in calves. To control this disease, Foot and Mouth Disease Control Programme funded by Government of India is implemented in all districts of Tamil Nadu. FMD vaccination is being carried out in all the districts as 3rd round of vaccination since 15.9.2012 and 86.27 lakh numbers of cattle and buffalo were vaccinated in pulse mode.

A sum of Rs.6.85 crores have been released by Government of India under this scheme during 2012-13.

7.2.7 NATIONAL CONTROL PROGRAMME OF PESTE DES PETITS RUMINANTS (NCP PPR)

Peste des Petits Ruminant (PPR) is an important viral disease and causes heavy losses in the rural economy due to high morbidity and mortality in sheep and goats.

To control this disease, vaccination programme against PPR is being undertaken in all the districts in the State from the funds released during 2011-12. 119.09 lakh numbers of Sheep and Goat have been vaccinated till date. Sheep and Goats purchased under Distribution of Free Milch Cows, Sheep and Goat announced by Hon'ble Chief Minister were also vaccinated. Government of India have released Rs.3.83 crores for implementation of the scheme.

7.2.8 NATIONAL CONTROL PROGRAMME FOR BRUCELLOSIS (NCPB)

'Brucellosis' – is an important zoonotic disease affecting livestock and human beings who are in contact with the affected animals. Control of the disease and Ultimately eradication will fetch more value for livestock products. The National Control Programme for Brucellosis is a step in the direction to control the disease.

Under this programme, it is planned to vaccinate 1.5 lakh numbers of heifer calf population against Brucellosis in 9 districts of Western Ghats based on results of Surveillance Programme. Screening in other 23 districts is in progress. Government of India have released Rs.92.00 lakhs during 2011-12 under this programme for implementation of the Scheme. One day awareness training programme conducted for 70 veterinarians and two days Hands on training given for 20 veterinarians on Brucellosis control measures.

7.2.9 NATIONAL PROJECT ON RINDERPEST ERADICATION (NPRE)

Rinderpest disease is an acute, febrile, highly contagious disease affecting livestock causing high mortality due to severe shooting diarrhoea. The Scheme is being implemented from the year 1992 in Tamil Nadu as a part of Global Rinderpest Eradication Programme as per

the guidelines of Government of India, by adopting Zero Rinderpest Vaccination and Sero Monitoring followed by Clinical Surveillance from 01.01.98 to till date. At present, Clinical Surveillance and Sero Surveillance activities are going on as per NPPE guidelines. The State was declared 'Provisionally free from Rinderpest' from March 1998 onwards. Again the State was declared 'Free from Rinderpest Disease' from May 2002.

During 2012-13, Rs.15 lakh was released by Government of India for the continuous Clinical Surveillance Programme.

7.2.10 NATIONAL ANIMAL DISEASE REPORTING SYSTEM (NADRS)

NADRS - a specialized scheme put forth with the objective to avoid the delay in communication of animal disease from field level to the State office in turn to country's central unit. Hence an online disease reporting system has been introduced through a dedicated computer network linking each block of District to the District head quarter, each district to the State head quarter, and each state to the country's central unit. The computer linkages would reduce data transmission time as well as data compilation and report generation.

Under this programme,

- 417 computers (Two at State Level, 30 at District Level and 385 at Block Level) were

supplied by National Informatics Centre (NIC) and brought under the online VPN network and information pertaining to animal diseases are being transmitted through NADRS.

- During 2012-13, a total number of 449 officials from Animal Husbandry Department were given hands on training on application of software.
- Government of India released Rs.3.15 lakhs during 2012-13, for the maintenance of photo copier, fax machine and publication of monthly disease bulletin.

7.2.11 RURAL BACKYARD POULTRY DEVELOPMENT SCHEME

The Rural Backyard Poultry Development Scheme 2011-12 is implemented in 7 districts viz Kancheepuram, Dharmapuri, Thanjavur, Thiruvarur, Sivagangai, Tirunelveli, and Thiruvallur with 100% subsidy from Government of India at a total cost of Rs. 45.60 lakhs to empower rural poor farmers. 300 numbers of beneficiaries are selected in each district totalling 2,100 beneficiaries and each beneficiary has been supplied with 45 numbers of 4 weeks old chicks. Training regarding poultry rearing has been provided to 2,100 selected beneficiaries. For each beneficiary, Rs.750 is provided for purchase of cages, feederers and waterer. During 2012-13 to continue the scheme in 24

districts, proposals have been sent to Government of India.

7.2.12 ESTABLISHMENT AND STRENGTHENING OF EXISTING VETERINARY HOSPITALS AND DISPENSARIES (ESVHD)

Improved infrastructure facilities will provide improved veterinary services contributing to reduction in the incidences of animal diseases thereby increasing the overall productivity of animals.

Many veterinary institutions in the Department are in a dilapidated state. Veterinary institutions that are functioning from rental buildings do not satisfy the requirement of a typical veterinary institution, with a restricted scope for further expansion, besides incurring excess expenditure by way of rent for many years.

Under this Scheme, the Department has identified several Veterinary Institutions that require new building and require repairs and renovations. Hence, during 2012-13, Government of India have sanctioned Rs.16.57 crores to newly construct 3 Veterinary Hospitals, 32 Veterinary dispensaries and 107 Rural Veterinary Dispensaries.

7.2.13 LIVESTOCK CENSUS

The Livestock Census, in the country started in the year 1919-1920. Since then it has been conducted once in every 5 years. The All India 19th Quinquennial Livestock Census commenced in our State on 15.09.2012 and enumeration work was done upto 14.10.2012 with reference date as 15.10.2012. A sum of Rs.15 crores has been released so far, for the exercise which would provide data for framing policies and plan various benefits to farmers. 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, Emu birds and other poultry birds and mechanised equipment such as milking machine, fodder cutter, chopper and baler (or) dung collection / disposal machines.

The enumeration work is done in such a way as to cover 1500 household in urban / rural areas and 1000 house hold in hilly areas. One Supervisor has to check the work of 6 Enumerators. The enumeration work has been completed and the filled in schedules are collected from all the Districts.

The process of consolidation of the data is presently underway and results will be published after the approval of Government of India.

7.3 CENTRAL AND STATE SHARED SCHEMES

7.3.1 ASSISTANCE TO STATES FOR CONTROL OF ANIMAL DISEASES (75:25)

The main aim of the programme is protecting livestock against endemic diseases. During 2012-13, the following vaccination target was achieved:

- Anthrax vaccination has been completed in 17 Districts, covering 26.72 lakhs Livestock.
- Black quarter vaccination has been completed in 7 Districts, covering 1.93 lakhs Livestock.
- Haemorrhagic septicemia vaccination has been carried out in Kancheepuram District, covering 4.8 lakhs livestock.
- Sheep Pox vaccination has been completed in 7 Districts covering 1.6 lakhs livestock.

For logistic support, Government of India released Rs.4.61 crores for implementation during the year 2012-13.

7.3.2 INTEGRATED SAMPLE SURVEY SCHEME (50:50)

Annual Sample Surveys are being conducted under the Central Sector Scheme 'Integrated Sample Survey' from the year 1977-78 onwards with the 50% financial assistance from Government of India. Under the scheme, Milk, Meat, Egg and wool are being estimated as per the Guidelines from Department of Animal Husbandry, Dairying & Fisheries, Government of India. The Survey has been divided into 3 seasons viz., Summer, Rainy and Winter Season for studying the seasonal fluctuations. The Survey has covered 7 villages / District / Season. But due to revision of Methodology by Government of India from 2012-13, 10-50% of villages are being covered / district.

The results of Integrated Sample Survey are useful in evolving, monitoring and evaluating the developmental schemes implemented over a period of time for the economic improvement of the Livestock farmers and helps the Department to assess the impact of its efforts, particularly towards genetic up-gradation.

Table 6: Percentage of Increase of Estimated Production of Milk and Egg over previous year

Item	Unit	2010-11	2011-12	Percent of increase in 2011-12 over 2010-11
Estimated Milk Production	000 MT	6831.262	6967.880	2.00
Estimated Egg Production	Lakh No.	1,15,137	1,18,518	2.94

7.4 WORLD BANK AIDED SCHEME

7.4.1 TAMIL NADU IRRIGATED AGRICULTURAL MODERNIZATION AND WATER-BODIES RESTORATION AND MANAGEMENT (TNIAMWARM) PROJECT

World Bank assisted 'Tamil Nadu Irrigated Agricultural Modernization and Water-bodies Restoration and Management project' (TN-IAMWARM project) is being implemented at a cost of Rs.2,547 crores integrating 8 Departments from 2007 with the prime objective of increasing the income in farmers by improving the utilization of each and every unit of water resource in agriculture and related activities.

A sum of Rs.41.40 crores has been allotted to carry out animal husbandry activities. The Project has been extended up to 30.09.2014.

The objectives of Animal Husbandry Department in this project are:-

- To increase the productivity of livestock in the sub basins.
- To provide veterinary services and breeding support at the farmers door step or nearest to the farmers door steps.
- To ensure complete cattle protection (Disease prevention and Cure).
- To increase the conception and calving rate in bovines.
- To reduce the gap between the availability and demand for fodder.
- To increase awareness among farmers in best animal care techniques.

The activities undertaken by the department in the sub basins are:-

- ✓ Establishment of Cluster Sub basin Veterinary Extension Units to provide veterinary services and breeding support to animals of farmers in areas where veterinary services are not available or inadequate by utilizing the services of unemployed veterinary graduates.
- ✓ Fodder development by bringing additional areas under fodder cultivation thereby

- increasing the availability of green fodder and conducting Azolla cultivation demos.
- ✓ Ensuring complete veterinary care and increasing percentage of conception through conduct of fertility cum health care camps, follow up visits, distribution of mineral mixture and mineral licks and oestrus synchronization.
 - ✓ Bringing in the practice of periodical deworming in sheep and goats and deworming of heifer calves.
 - ✓ Increasing the awareness level of farmers in better veterinary care by training and utilising various mass communication, propaganda and publicity methods.

The project is being implemented in 9 sub-basins from 2007-08 as Phase I. The Project was extended to 15 more sub-basins from 2008-09 as Phase II, to 20 more sub-basins from 2009-10 as Phase III and to 5 more sub-basins from 2011-12 and one more sub-basin from 2012-13 as Phase IV. Totally 50 sub basins are taken for implementation of animal husbandry activities under the project.

Since the inception of the project to March 2012, the following activities have been carried out at a total cost of Rs.25.87 crores.

- ✓ 70 Cluster Sub basin Veterinary Units have been established.

- ✓ 12.98 lakh artificial inseminations have been done free of cost.
- ✓ 27,170 acres of private lands have been brought under fodder cultivation by providing fodder inputs like Co3 slips, fodder maize, fodder cholam, cow pea, agathu, ledge lucerne and kollukattai / Stylo grass seeds to the farmers free of cost.
- ✓ 189 chaff cutters have been provided to farmers with 75% subsidy.
- ✓ 991 demos on Azolla cultivation have been conducted.
- ✓ 5,635 Fertility cum veterinary health care camps have been conducted.
- ✓ Oestrus synchronisation has been conducted in 4,290 animals free of cost.
- ✓ 3,995 Farmers interactive meetings / Night meetings have been conducted.
- ✓ 14.59 lakh sheep and goats and 1.43 lakh heifer calves have been dewormed periodically free of cost.
- ✓ 47,375 Farmers have been provided three days training on best animal husbandry practices and 3400 farmers have been taken to exposure visit.
- ✓ 569 Veterinarians in the sub basins have been provided 10 days refresher training.

During 2012-13, Rs. 9.59 crores has been allotted and the following activities have been carried out:

- 4 Cluster Sub basins Veterinary Units are in operation.
- 5.14 lakh artificial inseminations have been performed free of cost.
- 4605 acres of private lands have been brought under fodder cultivation by providing fodder inputs like Co3/Co4 slips, fodder maize, fodder cholam, desmanthus, agathi, cow pea and kollukattai grass seeds to the farmers free of cost.
- 828 demos on Azolla cultivation have been conducted.
- Various outreach programmes like 1,647 Fertility cum veterinary health care camps, distribution of mineral mixture to 17,745 animals and mineral licks to 14,290 animals, oestrus synchronization in 3,000 bovines, periodical deworming in 2.64 lakh heifer calves and 1.72 lakh sheep and goats have been carried out.
- 3 days training on best animal husbandry practices to 14,975 farmers, exposure visit to 300 farmers and refresher training to 44 veterinarians have been carried out.

The World Bank and the 11th Empowered Committee for IAMWARM Project have approved implementation of the following animal husbandry activities in 50 sub basins at a cost of Rs. 8.41 crores during 2013-14:

- Continuation of the operation of 4 Cluster Sub basin Veterinary Units already established under the project.
- Performing 2.47 lakh artificial inseminations by utilizing the services of Cluster Sub basin Veterinary Units veterinarians, department veterinarians and para-veterinarians in the project area.
- Fodder development by bringing 1,766 hectares of private lands under fodder cultivation by providing fodder inputs like Co3/Co4 slips, fodder maize, fodder cholam, desmanthus, agathi and cow pea seeds to the farmers free of cost.
- Conducting various outreach programmes like 1,729 Fertility cum veterinary health care camps, distribution of mineral mixture to 34,580 animals and mineral licks to 12,350 animals, oestrus synchronization in 3,420 bovines and periodical deworming in 0.98 lakh heifer calves and 13.07 lakh sheep and goats.
- Improving the human resource in the project area by providing three days training to 18,650 farmers and exposure visit to 700 farmers.

8. LIVESTOCK DEVELOPMENT

8.1 Livestock Farms

Livestock farms are maintained for selective scientific breeding of specific species of livestock. They serve as demonstration farms

and training centre for needy farmers. Moreover, they are acts as a source for quality livestock to the farmers. There are 13 Farms, out of which 8 are Livestock Farms, 3 are Sheep Farms, one is Poultry Farm and one is Fodder Farm. The location, area and species maintained in each farm is as follows:

Table 7: Location of Departmental Farms, their extent and species maintained

Sl. No	Name of the Farm	Area (in acres)	Species maintained
1	Exotic Cattle Breeding Farm, Eachenkottai (Thanjavur district)	638.61	Cattle and Buffaloes
2	District Livestock Farm, Hosur (Krishnagiri district)	1561.41	Cattle, Sheep, Goats, Pigs, Poultry and Horses
3	District Livestock Farm, Abishekapatti (Tirunelveli district)	1283.64	Cattle, Buffaloes, Sheep, Pigs and Poultry
4	District Livestock Farm, Udhagamandalam (The Nilgiris district)	129.38	Cattle
5	District Livestock Farm, Pudukottai (Pudukottai district)	959.31	Cattle, Sheep, Goats, Pigs and Poultry
6	District Livestock Farm, Orathanad (Thanjavur district)	733.50	Buffaloes and Poultry
7	District Livestock Farm, Chettinad (Sivagangai district)	1590.32	Cattle, Sheep, Goats, Pigs and Poultry
8	Livestock Farm, Korukkai (Thiruvarur district)	495.68	Cattle

Sl. No	Name of the Farm	Area (in acres)	Species maintained
9	Sheep Farm, Chinnasalem (Villupuram district)	1866.28	Sheep and Goats
10	Sheep Farm, Mukundarayapuram (Vellore district)	479.65	Sheep
11	Sheep Farm, Sathur (Virudhunagar district)	542.48	Sheep and Goats
12	Poultry Farm, Kattupakkam, (Kancheepuram district)	9.65	Fowls and Turkey
13	Fodder Farm, Padappai (Kancheepuram district)	17.00	Fodder Grasses and Trees
Total		10306.91	

8.2 Cattle and Buffalo Development

Cattle and Buffalo Development activities are mainly aimed to increase milk production through extensive crossbreeding of non descriptive cows and upgrading local buffaloes. As per 18th Livestock Census, the cattle population of 111.89 lakhs accounts for 36.38% of total livestock in the State. Cattle comprises 84.78% of the total bovines reared in the State. The exotic, crossbred, native pure, non-descriptive and other graded cattle account for 3.03%, 62.95%, 6.44%, 25.20%, and 2.38%. Buffalo comprises 15.22% of the total bovine population and 6.53% of the total livestock in the State.

As per Integrated Sample Survey Scheme Report, the total estimated milk production of exotic and cross bred cows during 2011-12 works out to 54.12 lakh tonnes as against 52.47 lakh tonnes during the previous year 2010-11 with an increase of 3.15% and the estimated individual average milk yield of cow/day for the year 2011-12 works out to 6.410 kgs as against 6.386 kgs during the previous year with 0.38% increase. This increase is due to increase in number of cross bred cattle population compared to Indigenous cattle population.

As per Farm Policy, the following Cattle and Buffalo breeds are maintained in the Departmental farms:

Table 8: Cattle and Buffalo breeds Maintained in Departmental Farms

S. No	Name of the Farm	Cattle / Buffalo	Stock as on 31.03.2013
1	Exotic Cattle Breeding Farm, Eachenkottai	Jersey, Jersey X, Umbalachery, Murrah	206
2	District Livestock Farm, Hosur	Jersey X, Friesian X, Sindhi, Kangeyam, Barghur, Pulikulam	461
3	District Livestock Farm, Abishekapatti,	Jersey X, Sahiwal, Murrah	150

S. No	Name of the Farm	Cattle / Buffalo	Stock as on 31.03.2013
4	District Livestock Farm, Udhagamandalam	Jersey, Jersey X, Friesian, Friesian X	110
5	District Livestock Farm, Pudukottai	Jersey X, Friesian X	227
6	District Livestock Farm, Orathanadu	Kangeyam, Murrah	155
7	District Livestock Farm, Chettinad	Jersey X, Friesian X, Tharparkar	366
8	Livestock Farm, Korukkai	Umbalachery	405
Total			2,080

8.3 Embryo Transfer Technology (ETT)

Under National Project for Cattle and Buffalo Breeding (NPCBB), Embryo Transfer Technology Programme has been carried out by setting up an Embryo Transfer Laboratory at District Livestock Farm, Hosur at a total cost of Rs.50 lakhs integrating Tamil Nadu Veterinary and Animal Sciences University, Animal Husbandry Department and Tamil Nadu Milk Producers Co-operative Union.

This programme was carried out in District Livestock Farm, Hosur with field level implementation in the districts of Coimbatore, Madurai, Vellore, Thiruvannamalai, Dharmapuri, Krishnagiri, Salem and Namakkal districts. So far, 50 donors of selected crossbred cows were flushed, from which 241 Embryos of good quality were collected and implanted in 175 cows.

So far, 112 animals were screened for Pregnancy, and 37 were found positive.

During 2013-14, this programme will be extended to Erode and Karur districts, District Livestock Farm, Abishegapatti and Exotic Cattle Breeding Farm, Eachenkottai.

8.4 Frozen Semen Production

A Frozen semen station is the nucleus of Artificial Insemination Programme. It functions with the main objective of quality frozen semen straw production, so as to ensure better fertility, conception rate, and rapid genetic upgradation.

Three frozen semen production stations are functioning to cater the needs of the 3,429 Artificial Insemination Centres located throughout the State. A total number of 175 breeding bulls of Jersey, Holstein Friesian, Crossbred Jersey, Crossbred Holstein Friesian, Red Sindhi, Kangeyam, Umbalachery, Burghur, Pullikulam and Murrah are available in these Farms and mini

straws are produced in the Frozen Semen Production Stations at Eachenkottai, Hosur and Uthagamandalam.

Table 9: Frozen Semen Straw Production
(In lakhs)

Sl. No	Target 2012-13	Achievement 2012-13	Proposed target 2013-14
1	44.06	50.90	48.82

Table 10: Breeding Bulls available
(As on 31.03.2013)

Sl. No.	Name of the Farm	Jersey	Jersey Cross	HF	HF Cross	Red Sindhi	Kangeyam	Umbalachery	Puikulam	Burghur	Murrah	Total
1	Exotic Cattle Breeding Farm, Eachenkottai	44	30	-	-	-	-	1	-	-	37	112
2	District Livestock Farm, Hosur	-	10	-	-	8	3	-	4	3	-	28
3	District Livestock Farm, Uthagamandalam	14	13	4	4	-	-	-	-	-	-	35
Total		58	53	4	4	8	3	1	4	3	37	175

8.5 Liquid Nitrogen Production and Supply

To freeze and store the frozen semen straws, liquid nitrogen is essential. In the Department, liquid nitrogen plants are functioning at Eachenkottai and Hosur.

Table 11: Liquid Nitrogen Production

(In litres)

Sl. No	Liquid Nitrogen Plants	No. of Plants	Production 2012-13
1	Exotic Cattle Breeding Farm, Eachenkottai	1	9,124
2	District Livestock Farm, Hosur	1	20,761
Total		2	31,885

8.6 Artificial Insemination

Artificial Insemination horizontally disseminates superior genetic resources in a population within a short period. With this in mind, to improve the milk production traits of cattle and buffaloes, to bring more returns to the farmers and to increase the State's milk production, artificial insemination with semen of high milk production traits is being carried out in 3,429 Artificial Insemination Centres functioning throughout the State.

During 2012-13, 46.95 lakhs of Artificial Insemination were done. As per 2011-12 data, the State occupies the number one position in the entire country in carrying out Artificial Insemination.

8.7 Cattle Breeding and Fodder Development Units

Cattle Breeding and Fodder Development units are functioning in 20 Districts each headed by one Deputy Director of Animal Husbandry and are looking after the Cattle Breeding and Fodder Development work of their area of operation.

The main aim is to have systematic supply of frozen semen straws of exotic breeds, cross breeds and native breeds and Liquid Nitrogen for the Artificial Insemination work and supply of inputs required for fodder production. Apart from this, these units are involved in the extension activities to extend Artificial Insemination work with frozen semen and to increase the fodder production.

8.8 Fodder Development

The economic viability of livestock husbandry is dependent on the genetic potential for production, good health care, balanced feeding of animals and efficient marketing of the produce. While genetic improvement and health care are the prerequisites for sustainability, efficient feeding and marketing will help in increasing the profitability. However, the profitability is directly dependent on the sources of feed and fodder, as about 65-70% of the total cost of livestock farming is attributed to feeding.

Any saving in feed and fodder cost would directly contribute to increase in profitability.

Balanced feeding of milch animals is more critical, as the results are reflected within a short span, almost immediately, in the form of milk production. In case of growing stock, bullocks, sheep and goats, quality of feed will reflect on the growth rate, age of maturity, body weight and fertility, which are often unnoticed by the owners. Hence feeding of milch animals has greater significance for farmers, although feed management for other species is equally important. Ensuring the availability of adequate quantity of feed and fodder for livestock becomes essential for improving livestock productivity.

Hence, Government have taken initiatives to encourage farmers for taking up the production of high yielding varieties by providing sufficient incentives to farmers through various State and Central schemes. Apart from this, the Department is undertaking the following fodder development activities

- ✦ To enable the landless families and poor farmers to take up animal husbandry activities, establishment of community feed and fodder banks with the help of Self-help groups are being encouraged.
- ✦ The Department has fodder seeds, slips and tree seedling production units in Padappai Seed Farm and District Livestock Farms at Hosur, Chettinadu, Abishekapatti, Eachenkottai, Chinnasalem and Ooty.

- ✦ Cultivation of perennial high yielding fodder grass like Cumbu-Napier- Co3,Co4 , Para grass,Kolukattai grass, Guinea grass and Congo signal grass and fodder cereals like Sorghum, Maize and Bajra are being encouraged.
- ✦ Cultivation of Cowpea, Stylosanthus and Co3 grass in Coconut groves as inter crop is also being encouraged.
- ✦ Cultivation of Fodder crops and Tree seedling in Veterinary Institutions are being taken up so as to encourage the farmers to take up fodder cultivation in the State.
- ✦ About 2390.53 acres of Departmental Farm lands were brought into fodder cultivation. During 2012-13, 19030.66 Mt of fodder, 232.19 lakhs of fodder slips and 1371.50 kgs of fodder seeds were distributed to the farmers
- ✦ from the Government Farms for augmenting fodder production.

8.9 Sheep Development

Sheep rearing is popular among village communities as a source of providing subsistence and as an alternate to agriculture. Sheep with its multi-faceted utility for wool, meat, skin and manure, forms an important component of rural economy. As per the common saying in the rural areas as "Kottilil aadu-Pettiyil Panam" which means that sheep available in the shed is like

having money on hand is very true as the sheep farmers can encash their sheep at any time for their urgent needs.

Tamil Nadu has 8 breeds of sheep namely Kilakaraisal, Ramnad white, Vembur, Mecheri, Madras red, Trichy black, Kurumbadu and Nilagiri. In the State, the farmer's preference is to rear meat type breeds.

Table 12: Sheep Breeds Maintained in the Departmental Farms

Sl. No	Farms	Breed	Stock (As on 31.03.2013)
1	District Livestock Farm, Abishekapatti	Keelakaraisal	401
2	District Livestock Farm, Chettinad	Ramnad White	322
3	District Livestock Farm, Pudukottai	Ramnad White	146
4	District Livestock Farm, Hosur	Mecheri	234
5	Sheep Farm, Sathur	Vembur	104
6	Sheep Farm, Chinnasalem	Mecheri, Madras Red	929
7	Sheep Farm, Mukundrayapuram, Vellore	Madras Red	261
Total			2,397

Quality rams and ewes produced in these farms are sold to local farmers to improve the progeny of local sheep and also for breeding purposes. The Animal Husbandry Department is helping sheep breeders to augment meat production through scientific breeding, feeding and management and to generate additional income to the farmers.

8.10 Goat Development

Goats form an important economic and ecological niche in the agricultural system of Tamil Nadu. Goat is a multi functional animal which contributes precious animal protein (meat and milk), fibre, skin and manure. It plays a significant role in the economy and nutrition of landless, small and marginal farmers of Tamil Nadu. Goats can effectively survive on shrubs and trees available in dry, low fertile lands and convert them into high quality animal protein. The worth of goat rearing lies primarily in their quick proliferation intervals, higher rates of growth and the ease with which they can be marketed. Goats are used in family ceremonies as feast and also for the payment of their dues. The goat breeds found in the State are Kanniadu, Kodiadu, Salem black.

Table 13: Goat Breeds Maintained in the Departmental Farms

Sl. No.	Farms	Breed	Stock (As on 31.03.2013)
1	District Livestock Farm, Chettinad	Jamunapari	69
2	District Livestock Farm, Pudukottai	Jamunapari	106
3	District Livestock Farm, Hosur	Telichery, Kodiadu, Kodivalli	169
4	Sheep Farm, Chinnasalem	Salem Black, Telichery	299
5	Sheep Farm, Sathur	Kanni	62
Total			705

The progeny of these goats are supplied to local farmers to improve the local goats.

To encourage and to involve more people in rural areas, Hon'ble Chief Minister has successfully launched a scheme of giving goats and sheep to poor families in rural areas at free of cost.

8.11 Piggery Development

Pigs are generally reared by the poorest of the rural population. These animals have wide adaptability to suit different agro-climatic conditions and thus, its rearing can play an important role in improving socio-economic status of weaker sections. Among the various livestock species, piggery is most potential source of meat production and more efficient feed converters next only to broiler chicken.

Apart from providing meat, it is also a source of bristles and manure. There is good demand from domestic as well as export market for pig products such as pork, bacon, ham, sausages, lard etc.

Table 14: Pig Breeds Maintained in the Departmental Farms

Sl. No	Farms	Breed	Stock (As on 31.03.2013)
1	District Livestock Farm, Hosur	Large White Yorkshire	44
2	District Livestock Farm, Abishekapatti	Landrace, Large White Yorkshire x, Large White Yorkshire	80
3	District Livestock Farm, Chettinad	Large White Yorkshire	169
4	District Livestock Farm, Pudukottai	Landrace	89
Total			382

8.12 Horse Breeding

One horse-breeding unit is functioning at District Livestock Farm, Hosur. To revive breeding and to conserve the equine species, Kathiawar and Thorough bred horses are bred in this unit. The stallions are allowed for natural service at the rate of Rs.500 per service. As on

31.12.2012, 2 stallions, 9 mares and 8 young ones are being maintained in this Unit.

8.13 Dog Breeding

Tamil Nadu possesses excellent native dog breeds like Rajapalayam, Kombai, Chippiparai and Kanni. To preserve these native breeds and to propagate them, a Dog Breeding Unit was established at Saidapet, Chennai during the year 1980-81. As there is heavy demand for other breeds like Labrador and Doberman these breeds were also added to the existing unit during the year 1997-98. The puppies are sold to the public.

Table 15: Dog Breeds Maintained in Dog Breeding Unit

Sl. No	Breeds	Adult			Pups		
		Male	Female	Total	Male	Female	Total
1	Rajapalayam	3	9	12	-	-	-
2	Chippiparai	1	1	2	-	-	-
3	Doberman	-	3	3	-	-	-
4	Labrador	1	3	4	1	3	4
5	Dalmation	1	-	1	-	-	-
6	Rottweiler	-	2	2	-	-	-
	Total	6	18	24	1	3	4

8.14 Poultry Development

Poultry rearing is one of the important activities of Animal Husbandry Sector in the State. The development of poultry industry is significant in the State. This has been achieved by establishing Poultry Extension Centres, which acted as demonstration farms and extension centres to provide training to take up poultry rearing. Moreover, Government's support for establishing poultry units and widespread immunization against Ranikhet disease contributed to development of poultry rearing as an industry. Poultry farming has developed on Commercial scale, in the Western parts of Tamil Nadu with Namakkal developing as layer belt and Palladam Region developing into a hub for broilers. The development is restricted to the Western belt of the State, though there is a good potential for Poultry Development in other parts of the State. Hence, The Government of Tamil Nadu have launched a scheme for development of Poultry Clusters in the non poultry backward regions of the State at a total cost of Rs. 22.35 crores.

The State occupies 2nd position in egg production in the country. As per Integrated Sample Survey Report, the total estimated Egg production of desi birds for the State during 2011-12 was 4,019 lakh Nos. and estimated egg production of improved birds for the year

2011-12 was 114499 lakh Nos. and the total egg production shows an increase of 2.94 % over the previous year estimate.

Ranikhet disease is one of the important diseases causing heavy mortality in poultry. To protect the poultry from this disease, the Department is providing vaccination against this disease on specified days at the veterinary institutions and sub centres every week and also in the camps conducted under 'Kalnadai Padhukappu Thittam'. Apart from this, the Department also conducts a Statewide vaccination drive against Ranikhet disease during the month of February every year. During the year 2012-13, 39.60 lakhs poultry have been vaccinated against Ranikhet disease.

Table 16: Poultry Stock maintained in Livestock Farms

Sl. No	Location	Breeds maintained	Stock
1	District Livestock Farm, Hosur	Giriraja, HH260	1,893
2	District Livestock Farm, Orathanad	Giriraja	1,576
3	District Livestock Farm, Chettinadu	Giriraja	3,272
4	Poultry Farm, Kattupakkam	Vanaraja, Giriraja, HH 260, Turkey	4,304
	Total		11,045

Apart from this, poultry stocks are maintained at Kodaikanal, Gandhigram and Masinagudi Poultry Extension Centres also.

9. DROUGHT MITIGATION

The Government of Tamil Nadu have announced an allocation of Rs.15.00 crores for provision of dry fodder to livestock at 50% subsidy, as a part of drought mitigation efforts in the 8 delta districts viz., Thanjavur, Thiruvarur, Nagapattinam, Cuddalore, Ariyalur, Karur, Pudukottai and Tiruchirapalli. Around 5,600 acres of farmers' holding will be brought under cultivation in the above delta districts @ 700 acres per district. A sum of Rs.6,800 per acre will be released at 50% subsidy to farmers on the cost of cultivation for establishing short term fodder crops in such farmers lands. This will ensure fodder availability at the field level during the period from June 2013 in the event that the drought continues.

The fodder thus produced will be procured by milk producers' co-operative societies at the rate fixed by district committee under the Chairmanship of District Collector. This fodder will be distributed to the milk pourers of Milk Producers' Co-operative Societies at 50% subsidy rate. Besides this, a sum of Rs.5.00 crores is earmarked for cultivation of Co3 and Co4 Cumbu Napier hybrid varieties in 4,166 acres of 8 delta

districts at a subsidy of Rs.12,000 per acre under Accelerated Fodder Development Programme (AFDP). Similarly, a sum of Rs.4.30 crores is also allotted for cultivation of fodder sorghum / cowpea in 5,376 acres of non-delta districts at a subsidy of Rs.8,000 per acre. Thus, the farmers of respective districts can provide fodder to the livestock during drought and prevent distress sale of their animals.

10. EXTENSION SERVICES

Appropriate extension and propaganda will ensure easy transmission of skills and knowledge regarding latest practices to the farmers. With efficient activities, livestock farmers are made aware of the latest developments in Animal Husbandry practices and also make the scheme and programmes of the department more transparent to the public. Moreover it will have a greater role in solving many field problems and in containment of economically important diseases that threaten livestock.

With the motto of "Seeing is learning" each and every opportunity is being utilized by the department to enlighten the farmers on various Animal Husbandry practices and disease prevention. Fairs and festivals are conducted by the department to collect and disseminate knowledge about Animal Husbandry and allied activities to the public in those areas. Information on prevention and control of deadly

diseases which are of significance, deworming, vaccinations, artificial inseminations, calf rearing, goat and sheep rearing, poultry keeping, pasture management, meat inspection, sanitary measures, destruction and disposal of carcasses, disinfection and disposal of carcasses, disinfection of contaminated premises and surface are provided to the farmers/ stake holders.

- During the year 2012-13, the Government allocated a sum of Rs.4.00 lakhs to the Animal Husbandry Department towards conducting fairs and the department participated in the following fairs:-
- Chennai – Island Ground Trade Fair (39th All India Tourist & Trade Fair)
- Dindugal – Kodaikanal – Kodai Vizha
- Krishnagiri – Mangani Exhibition
- Coimbatore – Trade Fair
- Madurai - Trade Fair
- Thanjavur-Trade Fair
- Namakkal- Valvil Ori Vizha

A sum of Rs. 87,900 was allocated for the department to take part in Republic Day Parade Pageantry at Chennai.

11. VETERINARY PUBLIC HEALTH

Zoonotic diseases are diseases caused by infectious agents that can be transmitted between animals and humans. With animal

husbandry forming the core livelihood of millions of rural population, veterinary public health plays a vital role in controlling the zoonotic diseases.

Some of the services related to these aspects are detailed below:

11.1 Canine Rabies Control Programme:

Tamil Nadu has a population of 18.40 lakhs dogs as per 18th livestock census. Dogs transmit Rabies disease not only to human beings but also to various other livestock which are of great economic importance to the stake holders. Thus elimination of canine rabies constitutes the most effective means of controlling transmission to human beings and other livestock.

With this aim, Canine Rabies Control Programme Unit is functioning at Madurai and Tirunelveli. The main work of these units are:

- Systematic, periodical door-to-door prophylactic vaccination of pet dogs against rabies on cost basis.
- Post exposure vaccination of all livestock including dogs free of cost and
- Creation of awareness among the public through publicity and propaganda by distributing pamphlets and handbills and by conducting dog shows.

11.2 Mass Vaccination and Deworming

Regular vaccination and periodical deworming of livestock and poultry are done by

the Department free of cost. By this, the chances of spreading of zoonotic diseases like Anthrax, Brucellosis, Taeniasis, Strongylosis, Amphistomiasis etc., are minimized. Also the life cycle of parasites is broken in livestock, for which human beings act as permanent or intermediate host.

11.3 Meat Inspection

Regular meat inspection work is conducted in the registered slaughterhouses functioning under the control of the local bodies located throughout the State. By this, the chance of getting meat borne diseases like Taeniasis, Trichinosis Hydatidosis by the meat consuming public is almost eliminated.

12. ANIMAL WELFARE MEASURES

12.1 Society for Prevention of Cruelty to Animals (SPCA)

To prevent cruelty to animals and to treat them ethically in a humane manner, the Government in coordination with Animal Welfare Board of India is addressing the problems of unethical treatment to animals.

As per Section 38 of the Prevention of Cruelty to Animals Act, 1960 enacting Prevention of Cruelty to Animals Rules 2001, in every district of Tamil Nadu a Society for Prevention of Cruelty

to Animals (SPCA) with the following objectives has been formed:

- To rescue and take care of all animals in the district and administer the PCA Act 1960.
- To register cases of cruelty to animals and produce the offenders before the court for conviction.

Some of the important measures taken are:

- Society for Prevention of Cruelty to Animals (SPCA) has been established in all districts in Tamil Nadu.
- A State level coordination committee headed by Secretary, Animal Husbandry, Dairying and Fisheries Department, Government of Tamil Nadu has been constituted. District level coordination committees headed by District Collector have also been constituted in every district.

12.2 Stray Dog Birth Control Programme

To control the stray dog population by the municipalities and local body authorities, the Government of India has formulated the Animal Birth Control (Dogs) Rules.

The main objectives of this programme are:

- ⇒ To effectively control stray dog population
- ⇒ To reduce incidence of Rabies

⇒ To prevent killing of healthy stray dogs

Under this programme, the stray dogs are caught in a humane method, sterilized, vaccinated against rabies and let back in the same original place from where they were caught. Government have ordered implementation of Animal Birth Control programme in 5 corporations and 50 municipalities involving Municipal Administration Department, Animal Husbandry Department and Animal Welfare Board of India.

13. JALLIKATTU

Jallikattu is conducted in the villages of Southern Districts of Tamil Nadu every year during Pongal/Harvest seasons as a part of the festival celebrations for 400 years and more. The District Administration conducts the Jallikattu in the Districts.

District Collectors ensured that the participating bulls were registered with the Animal Welfare Board and in turn the Board had sent its representatives to monitor over the event. A team of veterinarians were present at the venue. They were also testing and certifying the bulls which were participated in the event and provide treatment for bulls if they get injured. A Deposit of Rs.2 lakhs for minor events and Rs.5 lakhs for major events is deposited by

the organisers for the benefit of the victims which also includes the victim's family, in case of an accident or injury during the event. Jallikattu events were permitted to be conducted from 15.01.2013 to 15.05.2013 in 26 places spread over 13 Districts as per the Tamil Nadu Regulation of Jallikattu Act, 2009, directions of the Hon'ble Supreme Court of India on 15.01.2008, 25.11.10 and 07.03.11, directions of Honourable Madras High Court of Madurai Bench on 12.01.12 and permission given by Hon'ble Supreme Court of India on 10.1.2013. So far (upto 31.03.2013), 30 Jallikattu events were conducted at 30 places in 8 districts.

14. TAMIL NADU LIVESTOCK DEVELOPMENT AGENCY

14.1 INTRODUCTION

Tamil Nadu Livestock Development Agency (TNLDA) was established as an autonomous agency to coordinate Cattle and Buffalo Breeding activities. The Agency has been implementing the National Project for Cattle and Buffalo Breeding (NPCBB) in Tamil Nadu since 9.1.2003.

Bringing all the breedable female cattle and buffaloes under defined breeding programme through artificial insemination and natural service and to increase milk production and per animal productivity are the objectives of the Agency.

To achieve the above objective the following activities are being implemented:

1. Supply of quality genetic inputs.
2. Introduction of quality bulls with high genetic merit for frozen semen production.
3. Implementing Quality control in semen production stations and semen banks.
4. Identification of elite cows through Field Performance Recording Programme (FPRP)
5. Intensification of Progeny Testing Scheme (PTS)
6. Procurement and supply of frozen semen and artificial insemination equipment.
7. Streamlining storage and supply of liquid nitrogen.
8. Increasing the breeding facilities;
 - Establishing new mobile AI centres by training rural youth and equipping them and encouraging Door-step delivery of breeding services.
 - Facilitating stationary Artificial Insemination centre to perform mobile AI work by conversion of existing Stationary Artificial Insemination Centre into Mobile cum Stationary Centre.
9. Conservation of indigenous breeds through Milk recording programme and produce quality bulls of high genetic merit.
10. Human Resources Development through regular training.

14.2 QUALITY ASSURANCE

In the Frozen semen production stations of the State, the Minimum Standard Protocol (MSP) of the Government of India for frozen semen production stations is being implemented. In 2012-13 towards procurement of quality inputs for genetic up gradation 6.05 lakh frozen semen straws produced from bulls of superior genetic quality have been purchased and supplied to the Department of Animal Husbandry.

14.3 ACTIVITIES UNDERTAKEN

i. Strengthening of Frozen Semen Production Stations

At District Livestock Farm, Hosur, construction of 2 bull sheds, and a frozen semen laboratory, has been taken up at a cost of Rs.1.52 Crores.

At Exotic Cattle Breeding Farm, Eachenkottai to increase the frozen semen production strengthening of collection yard, semen processing laboratory and construction of biosecurity wall at a cost of Rs.6 crores has been initiated.

At Nucleus Jersey and Stud Farm, Udhamandalam of the Tamil Nadu Co-operative Milk Producers' Federation, construction of a bull shed at a cost of Rs.1.07 Crores has been taken up.

ii. Embryo transfer programme

In 2012-13 the embryo transfer programme was implemented at the District Livestock Farm, Hosur and in the districts of Dharmapuri, Vellore, Tiruchi, Madurai, Salem, Namakkal, Coimbatore and Thiruvannamalai district in coordination with the Department of Animal Husbandry, Tamil Nadu Veterinary and Animal Sciences University and the Tamil Nadu Cooperative Milk Producers' Federation Limited. Under the programme 271 embryos were collected from 58 cows and transferred to 271 cows and 54 cows have conceived. Through Embryo transfer programme 2 bull calves and 1 heifer calf have been born so far.

iii. Strengthening of Artificial Insemination Network in the State by establishing New Mobile Artificial Insemination Centers

In 2012-13, 200 rural youth were trained to take up doorstep artificial insemination work and they have been provided with necessary equipment to establish new mobile Artificial Insemination Centre.

iv. Strengthening and Streamlining of Liquid Nitrogen Distribution

For supplying liquid nitrogen and frozen semen doses from semen banks, 32 vehicles

have been supplied to 21 semen banks of Department of Animal Husbandry and 11 semen banks of Tamil Nadu Cooperative Milk Producers' Federation Limited.

v. Training Programmes

- a) 10 Veterinary Assistant Surgeons of Department of Animal Husbandry has been given training on embryo transfer Technology at Madras Veterinary College and arrangements have been made to train 10 more Veterinary Assistant Surgeons
- b) 300 Village level workers of Tamil Nadu Co-operative Milk Producers' Federation and Private Artificial Insemination workers trained by TNLDA have been given retraining on Artificial Insemination at the National Dairy Development Board, Southern Regional Training Center, Erode.
- c) 300 Livestock Inspectors of Department of Animal Husbandry have been given retraining at Exotic Cattle Breeding Farm, Eachenkottai, Thanjavur.

vi. Progeny Testing Scheme (PTS)

The sixth batch of 20 Crossbred Jersey bulls and seventh batch of 25 crossbred Jersey bulls are under progeny testing programme implemented by the Tamil Nadu Cooperative Milk Producers' Federation with the financial assistance from Tamil Nadu Livestock Development Agency.

vii. Field Performance Recording Programme (FPRP)

This programme is implemented by Tamil Nadu Cooperative Milk Producers' Federation with the financial assistance from the Tamil Nadu Livestock Development Agency. From the elite cows enrolled, high yielding cows selected are inseminated with proven bull semen and the bull calves born to these cows are selected and reared for semen production in the semen stations. The third set of the programme is being implemented in the milk unions of Coimbatore, Dharmapuri, Erode, Madurai, Salem, Tirunelveli, Thiruchirapalli and Vellore. Under the scheme in 2012-13, 76 crossbred Jersey bull calves produced have been supplied to Frozen semen production stations.

viii. Conservation of indigenous breeds: Milk Recording in Kangeyam cattle

This programme is implemented by Tamil Nadu Cooperative Milk Producers' Federation with the financial assistance from the Tamil Nadu Livestock Development Agency. From the elite Kangeyam cows enrolled, high yielding cows selected are inseminated and the bull calves born to these cows are selected and reared for semen production in the semen stations. The programme is implemented in the milk unions of Coimbatore, Erode and Trichy. Under the scheme 10 Kangeyam bull calves born, have been procured for District Livestock Farm, Hosur.

ix. Infertility Camps

During 2012-13, arrangements were made to organize 1012 infertility camps through Department of Animal Husbandry and Tamil Nadu Co-operative Milk Producers' Federation limited.

14.4 LIVESTOCK INSURANCE SCHEME

The centrally sponsored scheme is being implemented by Tamil Nadu Livestock Development Agency. The scheme was formulated with the twin objective of providing protection mechanism to the cattle rearers in the event of loss of their animals due to death and to demonstrate the benefit of the insurance of livestock. Under the scheme 50% of the premium is provided as Government subsidy and balance 50% is collected from the farmers.

The indigenous /crossbred milch cattle and buffaloes are being insured at their current market price. The subsidy is given for a maximum of 2 animals per beneficiary and for a policy not exceeding three years. The scheme is being implemented in Coimbatore, Cuddalore Dharmapuri, Dindigul, Erode, Krishnagiri, Madurai, Namakkal, Salem, Thanjavur, Trichy, Thiruvannamalai, Thirunelveli, Vellore and Villupuram districts. In 2012-13 the Scheme is being implemented with the allocated fund of Rs.5.25 crores. A total of 53,579 (Provisional) cattle and buffaloes have been insured during the year.

15. TAMIL NADU VETERINARY AND ANIMAL SCIENCES UNIVERSITY

15.1 OBJECTIVES OF TANUVAS

The Tamil Nadu Veterinary and Animal Sciences University (TANUVAS) was established with the following objectives:

- ◆ To impart quality education to undergraduate, post-graduate and doctoral students in different fields of Veterinary and Animal Sciences, Fisheries Sciences and Food Sciences
- ◆ To carry out research in livestock, poultry and fish production, protection and value addition of products
- ◆ To disseminate knowledge on important technologies to line departments and farming community for the sustenance and growth of livestock, poultry and fisheries in the State through extension programmes

15.2 TANUVAS : Highlights of 2012-13

- ☞ The Hon'ble Chief Minister of Tamil Nadu inaugurated two new Veterinary College and Research Institutes established under TANUVAS at Orathanadu of Thanjavur District and at Tirunelveli through video conferencing on 09.10.2012.
- ☞ The Hon'ble Chief Minister of Tamil Nadu inaugurated the newly established

Veterinary University Training and Research Centres at Tiruvannamalai, Krishnagiri and Villupuram districts sanctioned during 2012-13 at an outlay of Rs. 2.4 crores, on 20.02.2013 through video conferencing.

☞ The B.V.Sc. & A.H. student admission strength was increased from 226 to 260 during the academic year 2012-13.

The constituent units of Tamil Nadu Veterinary and Animal Sciences University are given below:

Table 17: Constituent units of TANUVAS

<p>❖ COLLEGES</p> <ol style="list-style-type: none"> 1. Madras Veterinary College, Vepery, Chennai 2. Veterinary College and Research Institute, Namakkal 3. Veterinary College and Research Institute, Orathanadu, Thanjavur 4. Veterinary College and Research Institute, Tirunelveli 5. College of Food and Dairy Technology, Koduvalli, Chennai 6. Institute of Poultry Production and Management, Hosur 7. Fisheries College and Research Institute, Thoothukkudi (now transferred to Tamil Nadu Fisheries University)

<p>• CENTRES OF ADVANCED STUDIES (CAS)</p> <ol style="list-style-type: none"> 1. Veterinary Clinical Medicine, Ethics and Jurisprudence, Madras Veterinary College, Chennai 2. Poultry Science, Veterinary College and Research Institute, Namakkal
<p>▪ CENTRE OF EXCELLENCE</p> <ol style="list-style-type: none"> 1. Centre of Excellence in Animal Biotechnology and Immunology, Madras Veterinary College, Chennai
<p>❖ RESEARCH STATIONS</p> <ol style="list-style-type: none"> 1. University Research Farm, Madhavaram Milk Colony, Chennai 2. Post Graduate Research Institute in Animal Sciences, Kattupakkam, Kancheepuram District 3. Institute of Poultry Production and Management, Chennai 4. Mecheri Sheep Research Station, Pottaneri, Salem District 5. Sheep Breeding Research Station, Sandynallah, The Nilgiris District 6. Institute of Animal Nutrition, Kattupakkam, Kancheepuram District 7. Veterinary University Regional Research Centre, Pudukottai
<p>❖ LABORATORIES</p> <ol style="list-style-type: none"> 1. Central University Laboratory, Madhavaram Milk Colony, Chennai

2. Animal Feed Analytical and Quality Assurance Laboratory, Namakkal
3. Poultry Disease Diagnosis and Surveillance Laboratory, Namakkal
4. Pharmacovigilance Laboratory for Animal Feed and Food Safety, Chennai
5. Zoonoses Research Laboratory, Madhavaram Milk Colony, Chennai
6. Bacterial Vaccine Research Centre, Madhavaram Milk Colony, Chennai
7. Viral Vaccine Research Centre, Madhavaram Milk Colony, Chennai
8. Animal Disease Laboratory, Thalaivasal
9. Shrimp Disease Diagnostic Laboratory, Madhavaram Milk Colony, Chennai (now transferred to Tamil Nadu Fisheries University)

❖ **VETERINARY UNIVERSITY TRAINING AND RESEARCH CENTRES**

- | | |
|------------------|---------------------|
| 1. Coimbatore | 10. Erode |
| 2. Dindigul | 11. Madurai |
| 3. Karur | 12. Nagercoil |
| 4. Melmaruvathur | 13. Rajapalayam |
| 5. Cuddalore | 14. Thanjavur |
| 6. Salem | 15. Vellore |
| 7. Tiruppur | 16. Thiruvannamalai |
| 8. Tiruchy | 17. Villupuram |
| 9. Dharmapuri | 18. Krishnagiri |

❖ **FARMERS TRAINING CENTRES**

- | | | |
|-----------------|----------|---------------|
| 1. Kancheepuram | 2. Theni | 3. Thiruvarur |
|-----------------|----------|---------------|

❖ **KRISHI VIGYAN KENDRAS**

- | | | |
|----------------|---------------|-------------|
| 1. Kattupakkam | 2. Kundrakudi | 3. Namakkal |
|----------------|---------------|-------------|

❖ **FISHERIES TRAINING AND RESEARCH CENTRE (now under Tamil Nadu Fisheries University)**

- | | |
|-------------|--------------|
| 1. Parakkai | 2. Thanjavur |
|-------------|--------------|

⇒ Hon'ble Chief Minister of Tamil Nadu inaugurated seven new buildings of TANUVAS for Veterinary University Training and Research Centre (VUTRC) Salem; Boy's Hostel for UG students, PG Girl's Hostel and Quality monitoring and Certification Centre at Fisheries College and Research Centre, Thoothukudi; Instructional Livestock Farm complex and Milking Parlour at VC&RI, Namakkal and Internet Kiosk at MVC, Chennai built at a cost of Rs.1.64 crores, through video conferencing on 11.08.2012.

15.3 ACTIVITIES OF TANUVAS

The activities of TANUVAS in the areas of Education, Research, Clinical services and Extension activities are outlined below:

15.3.1 EDUCATION

Details of sanctioned students admission strength for the year 2012-2013 at TANUVAS are furnished below.

Table 18: Students admission strength

Courses	Madras Veterinary College, Chennai	Veterinary College and Research Institute, Namakkal	PG Research Institute in Animal Sciences, Kattupakkam	Fisheries College and Research Institute Thoothukudi	Veterinary College and Research Institute, Orathanadu, Thanjavur	Veterinary College and Research Institute Tirunelveli	College of Food and Dairy Technology, Koduvalli	Total
B.V.Sc. & AH	100	80	.	-	40	40	-	260*
B.V.Sc. & AH (NRI-5 ; Foreign Nationals – 5 and Kashmiri migrants – 1)	6	5		-			-	11
B.F.Sc	-	-		40			-	40
B.F.Sc (NRI-1 and Foreign Nationals – 3)	-	-		4			-	4
B.Tech. (Food Processing Technology)	-	-		-			20	20
B.Tech. (Poultry Production Technology)	-	-		-			20	20
M.V.Sc	120			-			-	120
M.V.Sc. & M.F.Sc. (Foreign Nationals)	5			-	-	-	-	5

Courses	Madras Veterinary College, Chennai	Veterinary College and Research Institute, Namakkal	PG Research Institute in Animal Sciences, Kattupakkam	Fisheries College and Research Institute Thoothukudi	Veterinary College and Research Institute, Orathanadu, Thanjavur	Veterinary College and Research Institute Tirunelveli	College of Food and Dairy Technology, Koduvalli	Total
M.F.Sc	-	-	-	31	-	-	-	31 **
M.Tech (FPT)	-	-	-	-			5	5
M.Sc. (Bioinformatics)	10	-	-	-	-	-	-	10
M.Sc.(Biostatistics)	3	-	-	-	-	-	-	3
M.Phil in Biotechnology	8	-	-	-	-	-	-	8
M.Phil in Climate change and Fisheries	-	-	-	4	-	-	-	4
PG Diploma (Animal Sciences)	30	-	-	-	-	-	-	30
PG Diploma (Fisheries Sciences)	-	-	-	6	-	-	-	6
PG Diploma through Distance Education	80 (Online mode at Directorate of Distance Education, Madhavaram)							80
Ph.D. (Veterinary)	98			-	-	-	-	98
Ph.D. (Fisheries)	-	-	-	15	-	-	-	15

* 34 seats increased for BVSc & AH degree course from the academic year 2012-13

** 2 seats increased in MFSc from the academic year 2012-13

- ✦ During 2012-13, 40 students per college were admitted for B.V.Sc. & A.H. course in the two newly established Veterinary College and Research Institutes at Orathanadu (Thanjavur district) and Tirunelveli.
- ✦ The following new courses were started during 2012-13
 - a. Postgraduate Diploma Programme (Online)
 - ★ Regenerative Medicine
 - ★ Zoonoses
 - ★ Small Animal Diagnostic Ultrasound
- ✦ With the financial support from ICAR, New Delhi, a new Girls' Hostel constructed at a cost of Rs. 94.70 lakhs was declared open on 03.03.2012.
- ✦ The 15th convocation of TANUVAS was held on 03.08.2012 at Anna Auditorium, Madras Veterinary College, Chennai and His Excellency, The Governor of Tamil Nadu and Chancellor of the University presided over the function and conferred degrees to 276 candidates and awarded the prizes and medals to the meritorious candidates.
- ✦ TANUVAS started Polytechnic courses in Animal Sciences. The courses are offered by the "Centre for Polytechnic Courses in Animal Sciences" at the TANUVAS Regional Research Centre, Pudukottai with the financial support under NADP 2011-12. TANUVAS has launched four courses viz. "Breeder flock management in turkey",

- "Clean milk production and value added milk products preparation", "Scientific goat farming" and "Reproductive management in dairy cattle"
- ✦ TANUVAS had been conferred with the prestigious "Sardar Patel Outstanding ICAR Institution Award 2011" for its meritorious performance in education, research and extension in the country in the field of Agricultural Sciences including Veterinary and Animal Sciences and Fisheries Sciences by the Indian Council of Agricultural Research, New Delhi. This award carried a cash prize of Rs.10 lakhs and a citation.
- ✦ With the financial assistance from ICAR under NAIP scheme, TANUVAS has completed the development of e-Courses for B.V.Sc. & A.H. degree programme. The e-contents facilitate for any time – anywhere learning and the lecture materials are in downloadable audio files, the first of its kind in veterinary education in India

15.3.2 RESEARCH

- ❖ Under University Plan, 87 Plan Schemes with a financial outlay of Rs. 61.12 crores funded by the Government of Tamil Nadu are in operation for strengthening the infrastructure facilities for higher studies, innovations, research infrastructure and dissemination of knowledge.

- ❖ Thirty-four externally funded research programmes at a total outlay of Rs. 46.95 crores were sanctioned during 2012.
- ❖ Indian Council of Agricultural Research, New Delhi has sanctioned a scheme on "Improved and expanded vaccines and immunological understanding of avian viruses" worth Rs. 2.51 crores.
- ❖ Department of Science and Technology, New Delhi has sanctioned two schemes namely "Establishing National Hub for healthcare instrumentation development" and "Fund for Improvement of Science and Technology infrastructure in Universities and Higher educational institutions(FIST) programme-2010" to a tune of Rs. 1.42 crores.
- ❖ Ministry of Food Processing Industries, New Delhi has sanctioned a scheme on "Quality control / food testing laboratory for meat and meat products" to a tune of Rs. 2.50 crores.
- ❖ Under National Agricultural Development Programme, TANUVAS is implementing the following 16 schemes with a total outlay of Rs. 27.89 crores during the financial year 2012-13:
 - Establishment of Bovine Infertility Diagnostic and Training Centre with special reference to Buffaloes
 - Monitoring, surveillance and control of emerging and reemerging diseases of poultry at field level

- Establishment of Frozen Semen Bank at Veterinary College and Research Institute, Namakkal
- Establishment of "State Level Food Processing Training Centre (FPTC)" at Institute of Food and Dairy Technology, Koduvalli
- Establishing Nucleus Jersey Crossbred Bull-Mother Farm: Production of Superior Crossbred Bulls for Sustainable Milk Production under Rural Conditions
- Augmenting Animal Productivity and Advanced Veterinary Care Delivery through Continuing Education to Field Veterinarians
- Strengthening of University peripheral centres and developing training modules for training beneficiaries of Honourable Chief Minister's priceless distribution of milch animal and sheep and goat Schemes
- Establishment of a "Centre for Poultry Products Certification for freedom from microbes for Export"
- Mass breeding and production of ornamental fishes and major carp seeds
- Establishment of Marine Engine and sea safety Training Centre for the fisher folk of Tamil Nadu
- Increasing Fish Production in Tamil Nadu through Production and Distribution of Genetically Improved Tilapia

- Establishment of Post-harvest centre in Fisheries (Ponneri-Tiruvallur Dt.)
 - Establishment of "Seafood Knowledge Highway" to improve health, combat malnutrition and enhance income of fishers
 - Developing aquaculture entrepreneurship in Tamil Nadu by improving breeding strategies and innovative farming protocols for high value ornamental fishes
 - Establishment of Chemical Residue Monitoring Laboratory for fish in Tamil Nadu
 - Establishment of Fish feed Quality Testing Laboratory for the benefit of fish farmers of Tamil Nadu
- ❖ During 2012-13, Government of Tamil Nadu has sanctioned the following schemes at a cost of Rs.42.67 lakhs under Part II
- Identification of avian infectious bronchitis virus variants in field conditions and development of a potent inactivated vaccine at a cost of Rs.22.00 lakhs
 - Establishment of recirculatory aquaculture system at Maritech Research and Extension Centre at a cost of Rs.20.67 Lakhs

AGREEMENTS SIGNED

- With Department of Biotechnology to implement the unique DBT-TANUAS Partnership programme on "Translational Research Platform for Veterinary Biologicals" at a cost of Rs.22.94 crores
- With Ghent University, Belgium to carry out collaborative research in different fields of food technology and student/faculty exchange programmes
- With M/s. Sujata Goat Farms, Kolar, Karnataka through National Research and Development Corporation, New Delhi for commercialization of technical know-how on "Utilization of Carcass"
- With Royal Swine Genetics, Coimbatore for transfer of technology of the product - "Anthelmintic Incorporated Mineral Block"
- With VR3 Emu Farms and Hatchery Unit, Puduchery to commercialize the technology on "PCR based method for sexing Emu"
- With M/s. Sanvita Biotechnologies Pvt. Ltd., Hyderabad for commercialization of Bluetongue multivalent inactivated vaccine
- With M/s. Kemin Industries Asia Pvt. Ltd., for carrying out trials on Kemin products and organising training and seminars in the area of nutrition and health
- With Laboratory Animal Scientist Association (LASA-India), and National Institute of Animal Welfare (NIAW) / Committee for the Purpose of Control and Supervision of

Experiments on Animals (CPCSEA) to offer a FELASA 'C' type training programme for the Veterinarians and other scientists who handle the laboratory animals

- With Commonwealth Veterinary Association (CVA), Bangalore to facilitate the exchange of scientists and personnel to actively participate in CVA programmes for mutual benefits to CVA and TANUVAS

RESEARCH ACHIEVEMENTS IN ANIMAL SCIENCES

TANUVAS has conducted pioneering research in the following fields:-

(i) ANIMAL HEALTH

- Molecular diagnostics for emerging avian viral diseases and their immunopathogenesis
- Novel diagnostics and vaccine delivery systems for emerging and economically important bacterial and viral diseases affecting small ruminants
- Plant extracts as alternatives for control of gastrointestinal nematodes in sheep

(ii) ANIMAL PRODUCTION

- Characterization and evaluation of Kodi Adu goats of Tamil Nadu
- Adaptation and facilitation of livestock to impending climatic changes through Shelter Management

- Improvement of feed resources and nutrient utilization in raising animal production
- Dietary crude protein requirement of guinea fowl for meat production
- Biological strategies to address environmental challenges in broiler production
- Sustainable rural livelihood through backyard guinea fowl farming in Thiruvannamalai district of Tamil Nadu

(iii) Technologies developed

New Technologies have been developed in the following categories:-

1. Namakkal chicken 1
2. Namakkal Gold Quail
3. Carotene enriched milk beverage
4. Bluetongue multivalent inactivated vaccine
5. Inactivated leptospira vaccine for bovines
6. Lateral flow test kit for sero diagnosis of brucellosis in bovines
7. TANUVAS GRAND supplement
8. Biofilm vaccine for Pasteurellosis in sheep and goat
9. Pet food production technology - meat products like balls, cutlets, pickle, samosas and sausages from spent hen meat
10. Multiplex PCR detection Kit for detection of *Salmonella*, *Vibrio cholera* and *E. coli* for fisheries sector

15.3.3 CLINICAL SERVICES

TANUVAS is offering clinical services to the pet and livestock owners round the clock. The details are furnished below:

Table 19: Out-patient cases treated during the year 2012-2013

Description	Hospitals		
	Madras Veterinary College, Vepery, Chennai	Veterinary University Peripheral Hospital, Madhavaram Milk Colony, Chennai	Veterinary College and Research Institute, Namakkal
Bovine	12,840	1,113	6,059
Canine	68,678	13,241	8,955
Feline	3,204	266	296
Equine	1,084	-	64
Caprine/Ovine	3,919	826	2,573
Avian	4,826	1,025	55
Others	830	130	157
Total	95,381	16,601	18,159

Inpatient facilities

- ⊕ At Madras Veterinary College Teaching Hospital, Vepery, 142 large and 168 small animals were admitted and treated as in-patients for various ailments
- ⊕ At Veterinary College and Research Institute, Namakkal, 3,074 large animals were admitted and treated as in-patients

- ⊕ A separate quarantine unit to house animals suspected for rabies is functioning in both the institutions

Infrastructure facilities available

1. Gastro-fibroscope
2. Broncho-fibroscope
3. Doppler
4. Hemodialyser
5. Dental scalar
6. Phago for cataract surgery

Laboratory services

- Pharmacovigilance Laboratory for Animal Feed and Food Safety, Madhavaram Milk Colony, Chennai
- Animal Feed Analytical and Quality Assurance Laboratory, Namakkal
- Zoonoses Research Laboratory, Madhavaram Milk Colony, Chennai

15.3.4 EXTENSION ACTIVITIES

The Directorate of Extension Education is functioning with the objective of planning and execution of all outreach programmes of the University in close coordination with other line departments / agencies such as the Dept. of Animal Husbandry, Tamil Nadu Co-operative Milk Producers' Federation Ltd., Tamil Nadu Livestock Development Agency and other Government organizations. The activities undertaken by the Directorate of Extension Education are furnished below.

Table 20: Training Programmes Conducted during 2012

Title of the Training Programme	No. of Training Programmes		Beneficiaries				Total
			SC/ST		Others		
	On campus	Off campus	Men	Women	Men	Women	
Dairy farming	87	176	794	1797	2563	3672	8826
Sheep & Goat farming	101	216	385	5086	2315	6740	14528
Poultry Farming	84	43	375	363	2689	960	4387
Turkey Farming	12	5	33	30	244	217	524
Broiler farming	3	15	8	235	71	360	674
Japanese Quail farming	24	9	87	68	479	141	775
Emu farming	2	2	1	14	34	33	82
Pig farming	12	-	35	2	208	37	282
Rabbit farming	14	1	33	150	186	44	413
Milk and Milk products	20	32	102	431	428	1286	2247
Meat and Meat products	9	5	4	33	88	156	281
Home Science	28	20	32	81	660	406	1219

Title of the Training Programme	No. of Training Programmes		Beneficiaries				Total
			SC/ST		Others		
	On campus	Off campus	Men	Women	Men	Women	
Horticulture	15	6	45	48	549	224	866
Integrated livestock farming	23	46	547	509	754	747	2457
Fish farming	28	13	129	60	562	322	1033
Agricultural Engineering	18	14	56	53	517	254	880
Feed and Fodder Cultivation	52	36	188	247	1136	1012	2783
Disease diagnosis and Management	13	35	117	826	360	1458	2758
Breeding problems & its management in crossbreds	2	5	7	34	100	55	196
Ethno Veterinary medicine	1	9	62	5	239	98	404
Total	548	688	3040	10072	14182	18222	45615

- ✎ During 2012-13, beneficiaries of Hon'ble Chief Minister's programmes on "Free distribution of milch cows to the poor family in rural areas" and "Scheme for Free distribution of goats/sheep" were offered with free training through TANUVAS peripheral centres on scientific rearing of the same.
- ✎ TANUVAS is observing Pongal festival season as "*Kalnadai matrum Meen Vala Vara Vizha*" at all its constituent units and organised horse adoption schemes, computerised registry of pet animals, free vaccination camp against rabies, seminar on food processing and value addition, etc.
- ✎ Of the seven proposed "Regional Livestock and Fisheries Exhibitions", TANUVAS has conducted three exhibitions at Trichirapalli, Tirunelveli and Coimbatore.

15.3.5 FUTURE PROGRAMMES

1. New Training Centres

At present, the extension outlets of TANUVAS viz. Veterinary University Training and Research Centres / Farmers Training Centres/ Krishi Vigyan Kendras are functioning in 23 districts of Tamil Nadu. TANUVAS has planned to establish the extension outlets in all the districts.

2. Regional Diagnostic Centre

TANUVAS is planning to establish Regional Diagnostic Centres for rapid diagnosis and control of livestock and poultry diseases for the benefit of the farming community. These centres will have modern diagnostic equipments and use standard operating procedures.

3. PG Diploma Course

During 2013-14, three PG diploma courses in Regenerative Medicine, Small Animal Diagnostic Ultrasound and Zoonoses will be started on online mode with an annual intake of 10 students per course.

4. Centre of Excellence

A Centre of Excellence in Veterinary Clinical Services at Madras Veterinary College, Chennai is to be established to provide state-of-art facilities for conducting research in clinical subjects and train the veterinarians in the state.

5. Regional Livestock Exhibition

TANUVAS will organize "Regional Livestock Exhibitions" at Villupuram, Salem, Vellore, and Madurai.

6. Skill development programmes

TANUVAS has started 18 skill development programmes and 13 self employment programmes to target the unemployed youths in the rural areas towards animal husbandry activities. Now, TANUVAS is planning to increase the number of programmes and the number of enrolment for the above programmes.

7. Thrust areas of research

- ❖ Nanotechnology
- ❖ Stem Cells and Regenerative medicine
- ❖ Conservation and improvement of Native Germplasm
- ❖ Augmenting milk and meat production and evolving cutting edge technologies for development of novel value added products and quality control
- ❖ Food processing
- ❖ Improving local feed and fodder resources
- ❖ Development of improved diagnostics
- ❖ Development of immuno-prophylactics and vaccines
- ❖ Control of mastitis
- ❖ Conservation and management of fisheries resources and strengthening fish harvesting and processing technology

The Tamil Nadu Veterinary and Animal Sciences University will continue to undertake research, education and extension programmes intensively and contributes to the development of livestock, poultry and fishery sectors in the State.

16. BUDGET FOR 2013-14

A sum of Rs.990.7921 crores has been provided in the Budget for 2013-14. Out of this, projected revenue expenditure is Rs.846.0187 crores, capital expenditure is 144.7733 crores and loan amount is Rs.1000.

17. CONCLUSION

Tamil Nadu's Animal Husbandry Sector has a Golden period in the last 2 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 bringing in 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 huge Infrastructure Development allocation has enabled the Veterinary Institutions get modernised buildings and latest technology equipments. The thrust given by the Visionary Chief Minister on the Animal Husbandry Sector is definitely resulting in a large scale socio-economic improvement of the rural poor.

T.K.M. CHINNAYYA
Minister for Animal Husbandry