

## **ANIMAL HUSBANDRY DEPARTMENT POLICY NOTE 2011-12**

*"The Government of Tamil Nadu, under my leadership will lay a major emphasis on formulating special schemes to catalyse the growth of primary sector based departments such as agriculture, animal husbandry and fisheries"*

*Hon'ble Chief Minister*

*(Independence Day address on 15.08.11)*

### **1. INTRODUCTION**

Animal Husbandry is the root base of rural economy. It plays an important role in upliftment of the economic status of the rural and urban people. Besides, Animal Husbandry sector is providing employment opportunities to unemployed and underemployed rural poor. Apart from generating employment and income, it also provides products like milk, meat, egg, wool, bone, skin, hide, offal, manure (dung) and draught power. The developments in this sector contributed to women empowerment in a big way. It is because of the immense importance of this sector to the rural economy that the Hon'ble Chief Minister of Tamil Nadu has herself stated on 15.08.11 during her Independence Day address that the Government of

Tamil Nadu lays prime focus on the development of Animal Husbandry Sector, besides other primary sectors.

The Animal Husbandry department is making all efforts for livestock development. The department is implementing different Animal Husbandry programmes like Feeding, Breeding, Management as well as Marketing in scientific methods, in order to safe-guard the livestock and poultry from different diseases and to provide better health coverage and breeding facilities.

This Department is successful in discharging its duties and functions with its network of various categories of Veterinary Institutions, in the State. The Department has many activities such as the development of Cattle, Buffalo, Sheep and Goats, Piggery, Poultry, besides Fodder resources, Extension and training, Implementation of socio-economic programmes. In addition, the department conducts Integrated Sample Survey annually and Livestock Census quinquennially.

Upgradation of local stock of cattle and buffaloes by Artificial Insemination using exotic and cross bred frozen semen straws through 3,358 Artificial Insemination Centres is being undertaken by our State effectively. The systematic implementation of the Cross Breeding Programme in cattle has led to a remarkable increase in the

crossbred cattle population to 70.44 lakhs and exotic and crossbred milk production to 4,228 thousand tonnes during the year 2009-10. By this, the State stands first both in Crossbred Cattle population and Exotic and Crossbred Cattle milk production in the Country.

During 2009-10, the gross value of output of livestock in the State is Rs. 20,940 crores. Livestock sector contributes about 2.74% of Tamil Nadu's Gross State Domestic Product (GSDP) and that to the agriculture and allied activities is 36.45%. The dairy and poultry sectors contributed significantly to this growth. The annual milk production during 2009-10 was 5,778 thousand tonnes. The annual egg production was 1084.76 crores and annual meat production was 461 thousand tonnes.

As per the Indian Council of Medical research (ICMR) recommendation, the per capita requirement of milk should be 250 grams per day and 180 numbers eggs per annum. The per capita availability of milk in India is 263 grams per day and egg is 51 eggs per year. The per capita availability of milk in Tamil Nadu is 237 grams per day and egg is 162 numbers per year.

The State contributes 18.13% of egg, 11.48% of meat and 5.13% of milk production and stands 2nd in egg and 4<sup>th</sup> in meat, 10<sup>th</sup> in milk

production in the country. Thus, the efforts of the department have resulted in the overall increase in egg, meat and milk production in the State.

## **2. AIMS OF THE DEPARTMENT**

- ▶ Enhancing 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 rural poor.
- ▶ Providing information and training on basic and latest animal husbandry practices.
- ▶ Protecting human health by preventing major zoonotic diseases of animals.

## **3. ADMINISTRATION**

The department was started in 1892 as Civil Veterinary Department to provide veterinary aid to needy farmers, was subsequently renamed as Animal Husbandry Department in 1948, with the main objectives of treatment and prevention of livestock diseases. Since then, this department

is constantly evolving with the demands of the growing livestock population.

The Animal Husbandry Department is headed by the Commissioner / Director of Animal Husbandry and Veterinary Services. The Director is assisted by 4 Additional Directors, one Joint Director, one Deputy Director and seven Assistant Directors in the Directorate and 26 Regional Joint Directors in the Districts. The State is divided into 26 Regions, each headed by a Regional Joint Director and 65 Administrative divisions, each headed by an Assistant Director.

Field veterinary institutions consist of Polyclinics, Clinician Centres, Veterinary Hospitals that are under the direct control of the Regional Joint Director and Veterinary Dispensaries and Upgraded Veterinary Sub Centres, which are under the control of the Assistant Directors.

The Institute of Veterinary Preventive Medicine (IVPM), Ranipet produces veterinary vaccines and diagnostics. One Central Referral Laboratory for diagnosis, confirmation and monitoring of Animal Diseases is functioning at Saidapet, Chennai. It also coordinates the work of 20 Animal Disease Intelligence Units headed by Assistant Directors functioning in various Districts of the State. The department also manages eight Livestock Farms, three Sheep / Goat Farms, one

Poultry Farm, one Fodder Farm, 20 Cattle Breeding and Fodder Development Units and two Poultry Disease Diagnostic Laboratories.

The following recent measures are taken to improve the administration of the department:

- One Additional Director post is now renewed as per the Government Order No. 17 of AHD & F Dept. dated 01.06.2011.
- A total of 230 candidates were given Livestock Inspectors Training in District Livestock Farms, Hosur and Orathanadu and were posted as Livestock Inspectors Grade II.

#### **4. 18<sup>TH</sup> LIVESTOCK AND POULTRY CENSUS**

Tamil Nadu has vast resource of livestock and poultry, which play a vital role in improving the socio-economic conditions of rural masses. Considering the shorter life span of livestock, the census on livestock, poultry, agriculture implements and fisheries is conducted once in 5 years since 1951. It provides Animal Husbandry Statistics to serve as a base for planning and monitoring developments in the field of Animal Husbandry and Veterinary Services. The 18th Quinquennial Livestock and Poultry Census was carried out by the

department of Animal Husbandry in 2007 with 15.10.2007 as the reference date.

The comparison and percentage increase / decrease of 17<sup>th</sup> and 18<sup>th</sup> Livestock Census (Provisional) are as follows:

**Table 1: Comparison of 17th and 18th Livestock Census** (In lakhs)

Species	17 <sup>th</sup> Census 2004	18 <sup>th</sup> Census 2007 (Provisional)	Percentage increase / decrease
Cattle	91.41	111.89	22
Buffalo	16.58	20.09	21
Sheep	55.94	79.91	43
Goat	81.77	92.75	13
Horses and Ponies	0.25	0.06	-76
Donkeys	0.26	0.05	-81
Pigs	3.21	2.84	-12
<b>Total Livestock</b>	<b>249.42</b>	<b>307.59</b>	<b>23</b>
Dogs	27.16	18.40	-32
Rabbits	0.67	0.14	-79
<b>Total Poultry</b>	<b>865.91</b>	<b>1281.08</b>	<b>48</b>

**Table 2: Breedable Population**

Sl. No	Species	Breedable Female Population (In lakhs)	
		17 <sup>th</sup> Census 2004	18 <sup>th</sup> Census 2007 (Provisional)
1	Cattle	41.17	48.09
2	Buffalo	9.01	9.00
Total		50.18	57.09

## 5. FODDER DEVELOPMENT

The contribution of livestock to the economy through its products like milk, egg, meat and hide is invaluable. To increase the quality and quantity of these products, the livestock specially requires good quality and quantity of green fodder. Increased milk production can be obtained through balanced feeding.

The cost towards feed and fodder constitutes around 70% of the total production cost of livestock. Both quantitatively and qualitatively, there exists a huge gap between the demand and supply of green fodder. Moreover the green fodder is not available throughout the year and is restricted to selected areas and seasons.

Based on 2007 (Provisional) livestock census, the deficit of green fodder has been worked out as 42.60% to total demand. The availability of

dry fodder is sufficient during normal monsoon period.

The total grazing land available in the State is 1.10 lakh hectares. The average cultivated area devoted to fodder production is only 3 per cent of the total area cultivated. The area under fodder production has not increased considerably in the last few decades and our natural grazing lands and pastures are fast shrinking as a result of competing demands for food under ever increasing population pressure, urbanization and industrialization. The farmer's preference for cash crops is one of the reasons for non increase of area under fodder production. Thus, the plausible alternative is to search for the possibilities of growing fodder with increased bio- mass yield with more nutritive value.

Livestock population mostly subsists on vegetation of natural grasslands where grasses are cheap sources of forage. Crop residues, straw and dry grasses form the basal roughage for feeding livestock, which are poor in quality being deficient in protein, energy and minerals. Therefore, supplementation of green fodder become essential for the successful exploitation of this sector as this forms the source of various nutritive elements of energy and protein levels for livestock production.

During the year 2011-12, following fodder development activities are to be taken up:

- Under State Fodder Development Scheme, it is proposed to minimise the fodder shortage and satisfy the feed requirement for the 60,000 milch cows and 28 lakhs Goats/ Sheep to be distributed through the Hon' able Chief Minister's "Scheme for free distribution of Milch Cows and Goats / Sheep ". For this purpose, cultivation of high yielding fodder crops in 24,000 acres of farmers' field, setting up of Fodder Seed Fodder Production Units in Government / University Farms, utilization of water saving devices, better utilization of nutrients in feed and fodder by providing subsidized power driven Chaff cutters, Grass cutters and Tamil Nadu Veterinary Animal Sciences University - GRAND supplement and by providing training / Information, Education and Communication (IEC) Campaign on fodder production and utilization are the works to be carried out with a financial outlay of Rs.20.00 crores.
- Under Centrally Sponsored Feed and Fodder Development Scheme, fodder development in farmers' land will be carried out with a financial outlay of Rs.64.00 lakhs. In which a sum of Rs.2500/- per unit of 0.25 acres will be distributed to farmers as 100%

subsidy to take up fodder cultivation with Cumbu Napier Hybrid and Desmanthes to ensure balanced feeding.

- Under Central and State Shared Scheme (75:25), 541 number of hand operated and 200 numbers of power driven chaff cutters will be distributed at a total cost of Rs.57.00 lakhs.

## 6. DEPARTMENTAL FARMS

There are eight Livestock Farms and three Sheep / Goat Farms in the department. In addition to these, one Fodder Farm and one Poultry Farm are also being maintained. The farms are maintained for selective scientific breeding of specific species of livestock and serve as demonstration farms and training centres for farmers. Moreover, they function as a source for quality livestock to the farmers. The location of farms is as follows:

**Table 3: Location of Departmental Farms  
across the State**

Sl. No	Name of the Farm	Location	Total Area (in acres)
1	Exotic Cattle Breeding Farm	Eachenkottai, Thanjavur district	1338.36
2	District Livestock Farm	Hosur, Krishnagiri district	1641.41
3	District Livestock Farm	Abishekapatti, Tirunelveli district	1283.64
4	District Livestock Farm	Udhagamandalam, The Nilgiris district	129.38
5	District Livestock Farm	Pudukottai, Pudukottai district	959.31
6	District Livestock Farm	Orathanad, Thanjavur district	196.34
7	District Livestock Farm	Chettinad, Sivagangai district	1907.32
8	Livestock Farm	Korukkai, Thiruvavur district	495.68
9	Sheep Farm	Chinnasalem, Villupuram district	1866.28
10	Sheep Farm	Mukundarayapuram, Vellore district	479.65
11	Sheep Farm	Sathur, Virudhunagar district	542.48
12	Poultry Farm	Kattupakkam, Kancheepuram district	10.55
13	Fodder farm	Padappai, Kancheepuram district	17.00

## 7. CATTLE AND BUFFALO DEVELOPMENT

As per 18<sup>th</sup> Census (Provisional), the cattle population of 111.89 lakhs accounts for 36.38% of total livestock (307.59 lakhs) in the State. Cattle comprises 84.78% of the total bovines (131.98 lakhs) 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% respectively. Buffalo comprises 15.22% of the total bovine population and 6.53% of the total livestock in the State.

Native animals have low production traits but higher disease and thermal resistant traits whereas the exotic breeds have higher production but lower resistant traits. Therefore, appropriate blood level crossing is derived and crossbreeding is being carried out.

The following Cattle and Buffalo breeds are maintained in the Departmental farms as on 31.03.2011.

**Table 4: Cattle and Buffalo breeds in Departmental Farms**

S. No	Name of the Farm	Cattle / Buffalo	Stock
1	Exotic Cattle Breeding Farm, Eachenkottai	Jersey, Cross bred Jersey, Umbalachery	108
		Murrah	43
2	District Livestock Farm, Hosur	Jersey , Crossbred Jersey, Crossbred Holstein Friesian, Red Sindhi, Kangeyam, Burgur, Pulikulam	622
3	District Livestock Farm, Abishekapatti,	Murrah	89
4	District Livestock Farm, Udhagamandalam	Jersey, Cross bred Jersey, Holstein Friesian, Holstein Friesian Cross	99
5	District Livestock Farm Pudukottai,	Jersey Cross, Holstein Friesian Cross	192
6	District Livestock Farm Orathanadu,	Kangayam	6
		Murrah	115
7	District Livestock Farm Chettinad,	Jersey Cross, Holstein Friesian Cross, Tharparkar,	316
8	Livestock Farm, Korukkai,	Umbalachery	285
<b>Total</b>		<b>Cattle</b>	<b>1,628</b>
		<b>Murrah</b>	<b>247</b>

## 8. PRODUCTION OF FROZEN SEMEN

For genetic upgradation of bovine population and to create availability of quality frozen semen, Frozen Semen Production Stations are functioning at Exotic Cattle Breeding Farm, Eachenkottai, District Livestock Farm, Hosur and District Livestock Farm, Udhagamandalam. The Minimum Standard Protocol (MSP) guidelines prescribed by the Government of India are strictly adhered to in these Frozen Semen Production Stations to ensure production of quality semen. The Frozen Semen Production Station at District Livestock Farm, Udhagamandalam is upgraded to ISO Standards with effect from 14.01.2011.

A total number of 179 breeding bulls of Jersey, Holstein Friesian, Crossbred Jersey, Crossbred Holstein Friesian, Sindhi, Kangeyam, Umbalachery and Murrah are available in these Farms and mini straws are produced in all the Frozen Semen Production Stations. 165 breeding bulls which were not upto the Minimum Standard Protocol were culled to improve the quality of the Frozen Semen Straws produced in the above farms. 23 bulls were purchased.

**Table 5: Number of Breeding Bulls available in the Farms**

Sl. No.	Name of the Farm	Jersey	Jersey Cross	HF	HF Cross	Red Sindhi	Kangeyam	Umbalachery	Murrah	Total
1	Exotic Cattle Breeding Farm, Eachenkottai	25	45	0	0	0	0	1	43	114
2	District Livestock Farm, Hosur	0	20	0	0	14	7	0	0	41
3	District Livestock Farm, Udhagamandalam	16	2	5	1	0	0	0	0	24
<b>Total</b>		<b>41</b>	<b>67</b>	<b>5</b>	<b>1</b>	<b>14</b>	<b>7</b>	<b>1</b>	<b>43</b>	<b>179</b>

**Table 6: Frozen Semen Production across Departmental Farms**

(In lakhs)

Sl. No	Frozen Semen Station	Production 2010-11	Proposed target 2011-12
1	Exotic Cattle Breeding Farm, Eachenkottai	14.03	14.50
2	District Livestock Farm, Hosur	10.49	12.00
3	District Livestock Farm, Udhagamandalam	9.37	10.50
<b>Total</b>		<b>33.89</b>	<b>37.00</b>



## 9. PRODUCTION AND SUPPLY OF LIQUID NITROGEN

The semen straws are frozen and kept in the frozen state in the medium of Liquid Nitrogen which has a temperature of  $-196^{\circ}$  C. Liquid nitrogen plants are functioning at Eachenkottai, Hosur, Uthagamandalam and Saidapet producing liquid nitrogen. Moreover, to store and distribute the liquid nitrogen and frozen semen straws to various veterinary institutions and sub centres involved in artificial insemination, 12 Frozen Semen Banks are functioning, one each at Coimbatore, Salem, Dharmapuri, Dindigul, Madurai, Sivagangai, Tirunelveli, Tiruchirapalli, Thanjavur, Cuddalore, Vellore and Chennai.

**Table 7: Liquid Nitrogen Production in Departmental Farms (In lakh litres)**

Sl. No	Liquid Nitrogen Plants	No. of Plants	Production 2010-11
1	Exotic Cattle Breeding Farm, Eachenkottai	2	0.55
2	District Livestock Farm, Hosur	1	0.04
3	District Livestock Farm, Udhagamandalam	1	0.03
4	Saidapet	1	0.05
<b>Total</b>		<b>5</b>	<b>0.67</b>

## 10. ARTIFICIAL INSEMINATION

Artificial Insemination was introduced in Tamil Nadu as early as 1948 to increase the productivity of Indigenous cattle. However, it was implemented on a large scale during 1960s through the Intensive Cattle Development Project and gained further momentum after the introduction of frozen semen in 1993. Animal Husbandry Department is procuring high quality Frozen Semen Straws with high yielding germplasm through Tamil Nadu Livestock Development Agency (TNLDA) to improve the milk production potential of breedable animals and for faster multiplication of genetically superior milk production traits in the State.

Currently, the cross breeding programme for genetic improvement of cattle is being implemented through a network of 3,358 AI centres functioning throughout the State. Apart from the above institutions, this work is also being carried out in the camps organized for this purpose, under "Kalnadai Padhukappu Thittam" and in remote villages, through mobile veterinary units, by private Artificial Insemination workers trained by Tamil Nadu Livestock Development Agency and by utilising the services of unemployed veterinary graduates under World Bank assisted Tamil Nadu Irrigated Agriculture Modernization and Water-bodies Restoration and Management Project. During 2011-12, it has been planned to carry out 45.15 lakh artificial inseminations.

### **11. CONSERVATION OF NATIVE BREEDS**

Tamil Nadu is known for its native breeds like Kangeyam, Umbalachery, Burghur, Pulikulam, Alambadi and Toda buffalo. The Native pure breed (6.69 lakhs) accounts for 5.07% of the total Bovine population (131.98 lakhs).

**Table 8: Population of Native Breeds of Bovines in Tamil Nadu**

<b>Sl. No</b>	<b>Breed</b>	<b>Population</b>
1	Kangeyam	3,14,817
2	Umbalachery	2,17,193
3	Pulikulam	34,191
4	Alambadi	31,874
5	Burghur	20,879
6	Toda	50,404
Total		6,69,358

Native breeds are unique in their adaptation to agro-climatic conditions of their habitat and management practices. The Native pure livestock populations possess valuable traits such as disease resistance, high fertility, good maternal quality, longevity and possess unique ability to utilise poor quality feed and can adopt in harsh and intricate climate.

The department, in close coordination with Tamil Nadu Livestock Development Agency, is not only protecting the native breeds from further degradation but also ensure their conservation and improvement. The department is maintaining one Umbalachery and seven Kangeyam breeding bulls for frozen semen collection. During 2011-12, it has

been planned to carry out 1.60 lakh artificial insemination utilizing the semen of native breeds.

## 12. DEVELOPMENT OF SHEEP AND GOAT

Small animal rearing is a primary source of livelihood for poor people and a significant contribution to animal protein is being met through meat. Goat is accepted as the "Poor man's cow" because it acts as the shock absorber in the scarcity period and fulfill the desired need. Considering the ever increasing demand for mutton / chevon even at a high cost, sheep and goat rearing is considered to be a highly remunerative occupation of the rural mass. Besides providing meat for human consumption and skin for leather industry, income is also derived through penning which is very common practice followed to fertilize the fields.

During the last two census periods, sheep and goat population has increased by 43% and 13% respectively. Tamil Nadu has sheep breeds like Kilakaraisal, Ramnad white, Vembur, Mecheri, Chennai red, Trichy black, Coimbatore and Nilgiris and goat breeds like Kanni adu, Kodi adu and Salem black.

Utmost care is given to prevent economic loss to the farmers by mortality and morbidity of

sheep and goats by periodical deworming, vaccination and treatment in all veterinary institutions, Kalnadai Padhukappu Thittam camps and under Assistance to States for Control of Animal Diseases programme.

In addition, the following sheep and goat breeds are maintained in the Departmental farms as on 31.03.2011.

**Table 9: Sheep / Goat Strength in Departmental Farms**

Sl. No.	Farms	Sheep	Stock	Goat	Stock
1	District Livestock Farm, Hosur	Mandya, Corridale cross,	281	Kodivalli, Jamunapari	103
2	District Livestock Farm, Chettinad	-	-	Jamunapari	41
3	District Livestock Farm, Pudukottai	Ramnad White	230	Jamunapari	95
4	District Livestock Farm, Abishegapatti	Kilakaraisal	251	-	-
5	Sheep Farm, Sathur	Vembur	111	Kanni, Kodivalli	96
6	Sheep Farm, Chinnasalem	Mechery, Chennai red,	993	Telichery	90
<b>Total</b>			<b>1,866</b>		<b>425</b>

Quality progeny produced in the above farms are sold to local farmers to improve the progeny of local sheep and goats.

### 13. INTENSIVE HEALTH COVER SCHEME

Sheep and goats are reared mainly by grazing thus making them highly vulnerable to parasitic infestations. These infestations cause many health problems in them like weight loss, delayed maturity, high mortality rate, low fertility rate etc., apart from making them susceptible to other infections. To overcome the above deleterious effects, the department is implementing an Intensive Health Cover Programme since 1982-83. Under this Programme, the sheep and goat maintained by farmers are dewormed periodically to overcome the problems due to parasites.

### 14. PIGGERY DEVELOPMENT

Pig farming has an important role in improving the socio-economic status of sizeable population of the weaker sections of the society.

The following are the pig breeds maintained in the Departmental farms as on 31.03.2011:

**Table 10: Piggery Stock in Departmental Farms**

Sl. No	Farms	Breed	Stock
1	District Livestock Farm, Hosur	Large White Yorkshire	109
2	District Livestock Farm, Abishekapatti	Large White Yorkshire, Large White Yorkshire Cross, Landrace	263
3	District Livestock Farm, Chettinad	Large White Yorkshire	86
4	District Livestock Farm, Pudukottai	Landrace	51
<b>Total</b>			<b>509</b>

As on 31.03.2011, there are 39 boars, 170 sows and 300 young ones in the above units.

### 15. HORSE BREEDING

One horse-breeding unit is functioning at District Livestock Farm, Hosur to revive the breeding and to conserve the equine species. Kathiawar, Thorough bred and Cross bred horses are bred in this Unit. The stallions viz., Kathiawar and Thorough bred are allowed for natural service.

At present, 6 stallions, 8 mares and 5 young ones are maintained in this Unit.

### 16. DOG BREEDING

To preserve native breeds such as Rajapalayam, Kombai and Chippiparai, a dog breeding unit was started at Saidapet, Chennai during 1980-81. As there is a demand for other breeds like Labrador, Doberman and Rottweiler, these breeds were added to this unit during the year 1997-98. Puppies are sold to the public who desire to rear them.

At present, the following breeds are maintained in this unit:

**Table 11: Dog Breeds in Dog Breeding Unit, Saidapet**

Sl. No	Breeds	Adult	
		Male	Female
1	Rajapalayam	3	12
2	Chippiparai	1	1
3	Doberman	1	2
4	Labrador	1	3
5	Dalmatian	1	1
6	Rottweiler	1	2
Total		8	21

### 17. POULTRY DEVELOPMENT

According to Livestock Census 2007, there are 268.80 lakhs Backyard poultry and 1012.28 lakhs Commercial poultry, with a total of 1281.08 lakhs of poultry population in the State. There are 8 Poultry Extension Centres and two Poultry Disease Diagnostic Laboratories functioning for the poultry development activities. Poultry Extension Centres are the model farms for the farmers to know about scientific ways of breeding and management. Poultry keeping is no longer limited to backyard farming. It has attained the status of industry and is more sustainable in many places in the districts of Namakkal, Salem, Erode and Coimbatore. These birds are very susceptible to the highly fatal Ranikhet disease. 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 Padukappu Thittam'. Apart from this, the department also conducts a Statewide Two Weeks Vaccination drive against Ranikhet disease during the month of February every year.

Poultry keeping has evinced great interest among poultry farmers which has resulted in increased egg production placing Tamil Nadu in

second place in the country. Backyard Poultry eggs contribute to 3.35% of the total egg production in the State. There is a good potential for export of eggs, egg products and frozen chicken meat from our State to Gulf countries, Russia etc.

**Table 12: Poultry Stock maintained in Livestock Farms**

Sl. No	Location	Breeds maintained
1	District Livestock Farm, Hosur	Giriraja
2	District Livestock Farm, Abishekapatti	Vanaraja
3	District Livestock Farm, Orathanad	Giriraja
4	District Livestock Farm, Chettinadu	Giriraja
5	Poultry Farm, Kattupakkam	Vanaraja, Giriraja, White Leghorn, Turkey
6	Poultry Extension Centre, Masinagudi	Giriraja
7	Poultry Extension Centre, Kodaikanal	Giriraja, Vanaraja
8	Poultry Extension Centre, Gandhigramam.	Giriraja, White Leghorn

## 18. TURKEY REARING

As per the 18<sup>th</sup> Livestock Census, Tamil Nadu has 0.47 lakh of turkey in which the turkey in rural and urban area is 0.39 and 0.08 lakhs respectively. With the aim of creating awareness on turkey rearing as one of the profitable backyard businesses and to popularize it as rural farming and to create self-employment, the department is maintaining turkey Units at the Poultry Farm, Kattupakkam.

## 19. AVIAN INFLUENZA

Avian Influenza is one of the important zoonotic diseases primarily affecting poultry. The strain H5N1 virus is transmissible to human beings. Though the disease has not been reported in the State, the preventive and precautionary measures have been taken by the department after the outbreak in Northern States. Bird Flu training is provided to Veterinarians, Para Veterinarians, Animal Husbandry Assistants and other Department staff for Rapid Response Team.

## **20. SCHEME ACTIVITIES**

Livestock rearing is an important economic activity for the rural people. It generates more value both economically and socially. To provide opportunities to weaker section of the society for earning through livestock and poultry keeping, the department is implementing various free and beneficiary oriented schemes with incentives.

### **20.1 STATE SPONSORED SCHEMES**

#### **20.1.1 KALNADAI PADHUKAPPU THITTAM**

To provide comprehensive animal health care at the doorstep of the farmers, a novel Scheme "Kalnadai Padhukappu Thittam" is being implemented from 2000-01. Total health cover both preventive and curative is provided to livestock and poultry reared by farmers by conducting special camps in remote villages where veterinary facilities are inadequate. During 2011-12, 5,500 camps will be conducted at a cost of 2.31 crores. Under this Scheme, on the day prior to the camp, ample publicity is given in the village and surrounding places informing the place where the camp is to be conducted. Pamphlets and leaflets are also distributed regarding the various services provided during the camp.

Special camps are conducted at the rate of one camp per month in all the 385 Panchayat Unions at a cost of Rs.4200/- per camp. In these camps, various activities like health care, disease prevention, deworming, castration, artificial insemination, pregnancy verification, infertility treatment etc. are carried out free of cost. In the calf-rally, prizes worth of Rs.400/- per camp are being distributed to best calves.

The above 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 is drafted for conducting the camps. The services of Tamil Nadu Veterinary and Animal Sciences University are also utilised in needy places. In addition, exhibitions depicting various livestock diseases and preventive measures, fodder development measures etc. are conducted for creating awareness among the farmers.

All animal growers in the villages and nearby villages where the camps are conducted will continue to be benefited out of these camps. Since all the services are provided at the farmers' doorsteps free of cost, this Scheme is very popular among the rural farming community.

**Table 13: YEARWISE CAMPS CONDUCTED  
ACROSS THE STATE**

Sl. No.	Year	No. of Camps Conducted	Animals Benefited (In lakhs)	Outlay (Rs. in lakhs)
1	2001-02	4,613	55.57	231.00
2	2002-03	4,812	58.14	214.00
3	2003-04	4,812	55.63	178.04
4	2004-05	5,005	54.21	185.18
5	2005-06	5,005	58.19	185.18
6	2006-07	2,695	37.44	113.19
7	2007-08	5,500	67.00	231.00
8	2008-09	5,500	64.03	231.00
9	2009-10	5,500	67.60	231.00
10	2010-11	5,500	65.39	231.00

### 20.1.2 PART II SCHEMES

1. Haeme Analyser with one kit for each unit at a total cost of Rs.30.00 lakhs to Animal Disease Intelligence Units at Tiruchirapalli, Dindigul, Dharmapuri, Kancheepuram, Virudhunagar and Cuddalore are being supplied by Tamil Nadu Medical Services Corporation Ltd, Chennai.

2. Uriscan with one kit for each unit at a total cost of Rs.3.00 lakhs to Animal Disease Intelligence Units at Tiruchirapalli, Dindigul, Dharmapuri, Kancheepuram, Virudhunagar and Cuddalore are being supplied by Tamil Nadu Medical Services Corporation Ltd, Chennai.

3. Veterinary Institutions, Clinician Centres and Institute of Veterinary Preventive Medicine, Ranipet are provided with a total of 87 computers at a cost of Rs.39.15 lakhs, for networking the offices of Animal Husbandry Department through server and client computers.

4. 144 upgraded Veterinary Sub centres and 56 Veterinary Sub centres are provided with furniture at a cost of Rs.28.00 lakhs.



## **20.2 WORLD BANK ASSISTED PROJECTS**

### **20.2.1 TAMIL NADU IRRIGATED AGRICULTURAL MODERNIZATION AND WATER – BODIES RESTORATION AND MANAGEMENT(TNIAMWARM PROJECT)**

Tamil Nadu Irrigated Agricultural Modernization and water-bodies Restoration and Management Project is being implemented at a cost of Rs.2,547 crores integrating 8 Departments from 2007 to 2013 for a period of 6 years with the assistance of the World Bank. The prime objective is to increase the income of farmers by improving the utilization of each and every unit of water resources in agriculture and related activities. For the entire project period, a sum of Rs.39.30 crores has been allotted to carry out animal husbandry activities.

Since the inception of the project to March 2011, in the Phase-I nine sub basins, Phase-II fifteen sub basins and Phase-III twenty sub basins, the following activities have been carried out at a total cost of Rs.15.38 crores.

- 70 Cluster Sub basin Veterinary Units have been established.
- 8.25 lakhs artificial insemination have been done free of cost.

- 8,196 hectares of private lands have been brought under fodder cultivation by providing fodder inputs like Co3 slips, fodder maize, fodder cholam and kollukattai/ Stylo grass seeds to the farmers free of cost.
- 148 demos on Azolla cultivation have been conducted.
- 3,842 Fertility cum veterinary health care camps have been conducted.
- 2,964 Farmers interactive meetings / Night meetings have been conducted.
- 13.66 lakhs sheep and goat have been dewormed periodically free of cost.
- 31,625 Farmers have been provided three days training on best animal husbandry practices.
- 450 Veterinarians in the sub basins have been provided 10 days refresher training.

During 2011-12, it has been planned to conduct the following activities in the Phase-I nine sub basins, Phase-II fifteen sub basins, Phase-III twenty sub basins and Phase IV five sub basins at a total cost of Rs.11.26 crores.

- Continuation of the operation of 70 Cluster Sub basin Veterinary Units already established under the project.

- Performing 4.84 lakhs 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 2,715 hectares of private lands under fodder cultivation by providing fodder inputs like Co3/Co4 slips, fodder maize, fodder cholam, desmanthus, agathi, Cow pea, kollukattai and Stylo grass seeds to the farmers free of cost, distribution of 189 chaff cutters with 75% subsidy and conducting 843 Azolla cultivation demos.
- Conducting various outreach programmes like 1,793 Fertility cum Veterinary health care camps, 4,779 follow up visits, distribution of mineral mixture to 15,725 animals and mineral licks to 17,450 animals,
- Oestrus Synchronization in 4,290 bovines, periodical deworming in 1.43 lakh heifer calves and 4.34 lakh sheep and goats.
- Improving the human resource in the project area by providing three days training on best animal husbandry practices to 15,750 farmers, 61 Exposure visit to 3,050 farmers and refresher training to 119 Veterinarians.

## **20.3 CENTRALLY SPONSORED SCHEMES**

### **20.3.1 RURAL BACKYARD POULTRY DEVELOPMENT**

Under Rural Backyard Poultry Development Scheme, Rs.46.50 lakhs was sanctioned for establishment of 7 mother units and one mother unit demonstration farm to supply 4 week old chicks to 2,100 beneficiaries during 2011-12 with the help of NABARD.

### **20.3.2 HILL AREA DEVELOPMENT PROGRAMME (HADP)**

The Hill Area Development Programme is being implemented in the Nilgiris District since 1975. The Union Planning Commission, Government of India sanctioned Rs.7.00 lakhs for implementing Schemes in Animal Husbandry sector under Hill Area Development Programme. Under this Programme, supply of hand operated milking machine to 40 farmers groups and supply of Giriraja birds to 1000 farmers at 25% subsidy are the works carried out.

### **20.3.3 NATIONAL AGRICULTURAL DEVELOPMENT PROGRAMME (NADP)**

This Scheme aims at 4% growth in agriculture and allied sectors during the 11th plan period by ensuring a holistic development.

Under National Agricultural Development Programme, the Government have sanctioned Rs.5.60 crores to carry out the following works:

- augmenting fodder production through Padappai farm at Kancheepuram district,
- development of small ruminants(goats) in 90 blocks of 7 districts with feed cost and insurance cost at 50% subsidy,
- supply of mineral mixture to animals,
- manufacturing of complete feed block using local unconventional feedstuff,
- augmenting fodder production through development of 10 acres of grazing land in Pudukottai district ,
- enhancement of fertility in cows through oestrous synchronization in 6 districts, and
- replacement of vehicles for 22 Mobile Veterinary Units.

During 2011-12, under National Agricultural Development Programme, the following activities

are proposed at a total cost of Rs. 26.11 crores from May 2011 onwards.

- ❖ Conducting oestrous synchronization in 50,000 animals at a total cost of Rs.3.79 crores.
- ❖ LN2 plant installation at Exotic Cattle Breeding Farm, Eachenkottai at a cost of Rs.5.50 crores.
- ❖ Revamping of Mukundarayapuram Sheep Farm with 525 sheep, at a total cost of Rs.86.00 lakhs.
- ❖ Augmentation of fodder in District Livestock Farm, Udthagamandalam at a cost of Rs.4.31 lakhs.
- ❖ Upgradation of Institute of Veterinary Preventive Medicine, Ranipet to GMP standards, at a total cost of Rs.7.52 crores.
- ❖ Establishment of mother unit cum hatchery unit at TAPCO lands at Arasur (Thirupur dist) and Kappalur (Madurai dist) at a total cost of Rs.4.76 crores.
- ❖ 1,925 units of buffalo rearing through farmers at a total cost of Rs.3.55 crores.
- ❖ 200 units azolla cultivation through farmers at a total cost of Rs.2.44 lakhs, and
- ❖ Provision of 10 automatic milking machines for District Livestock Farms at a total cost of Rs.6.00 lakhs.

#### **20.3.4 NATIONAL MISSION FOR PROTEIN SUPPLEMENTATION (NMPS).**

In the context of ensuring year round availability of animal protein for consumers and to maximise economic returns to farmers it is proposed to promote intensive goat production. In this scheme 60 beneficiaries will be provided with 100 goats each. They will also be provided with funds for construction of sheds, concentrate feed for 2 months, equipments and training in goat rearing and silage making. The total cost of the project is 1.55 crores. To improve the productivity of goats under conventional small holder / pastoral system, it is proposed to give concentrate feed at 250 gm/day for 2 months for 40,000 goats in 20 clusters. The estimated cost of the project is Rs.94.00 lakhs.

With a view to securing food and nutritional security for a fast growing population, an integrated approach to livestock farming is now practiced. With a view to increase animal protein availability for farmers and to maximise economic returns to them it has been proposed to set up a nuclear piggery farm at Abishegapatti, Tirunelveli district at a cost of 2.84 crores. 10 satellite piggery units will be formed at a cost of Rs.40.97 lakhs. The satellite units will be supported with superior quality piglets,

feed, equipment and insurance. Gainful employment will be generated and self sustainability of farmers can be achieved.

#### **20.3.5 ACCELERATED FODDER DEVELOPMENT PROGRAMME**

- ❖ Production of Breeder / Foundation seed and Demonstration at Tamil Nadu Agricultural University and District Livestock Farm, Chettinadu at Rs. 50 lakhs each at a total cost of Rs.1 crore.
- ❖ Provision of hand operated chaff cutters at a total cost of Rs.50.00 lakhs.
- ❖ Establishing silage making unit comprising silo pit and power driven chaff cutters at a total cost of Rs.1.05 crores.
- ❖ Cultivation of high yielding fodder crops in farmers' field at a total cost of Rs.9.248 crores.

#### **20.3.6 NATIONAL PROJECT ON RINDERPEST ERADICATION (NPRE)**

The aim of this 100% Centrally Sponsored Scheme is to eradicate Rinderpest disease, which causes great economic loss to the farmers. The Scheme is being implemented from the year 1992 in Tamil Nadu as a part of Global Rinderpest Eradication Programme as per the guidelines given

by NPRE, New Delhi. The objectives of the Scheme is to control and eradicate Rinderpest Disease from our State and Country by adopting Zero Rinderpest Vaccination and Sero Monitoring followed by Clinical Surveillance from 01.01.98 to till date and Sero Surveillance to identify any hidden foci of Rinderpest infection. At present, Clinical Surveillance and Sero Surveillance activities are going on as per NPRE 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 2011-12, for the continuous Clinical Surveillance Programme, action plan has been sent to Government of India for Rs.32.00 lakhs.

### **20.3.7 FOOT AND MOUTH DISEASE CONTROL PROGRAMME**

To prevent economic losses due to Foot and Mouth Disease and to develop herd immunity in cloven-footed animals, Foot and Mouth Disease Control Programme (FMD-CP) is implemented only in Kanniyakumari District. Systematic coverage of Foot and Mouth Disease vaccination in all susceptible livestock in this project area based on Government of India guidelines is being carried out. 11 rounds of Foot and Mouth disease vaccination

have been completed. One lakh cattle are benefited by this Scheme in the project area.

### **20.3.8 EXTENDED FOOT AND MOUTH DISEASE CONTROL PROGRAMME**

Extended Foot and Mouth Disease Control Programme is a Government of India Scheme implemented in all districts of Tamil Nadu excluding Kanniyakumari district. Government of India sanctioned Rs.1.05 crores towards expenditure on logistic support for carrying out Food and Mouth Disease vaccine. During 2011-12, all the Districts will be covered under this Scheme.

### **20.3.9 NATIONAL ANIMAL DISEASE REPORTING SYSTEM (NADRS)**

Prompt reporting of any epidemic is essential not only for undertaking immediate control measures to prevent the further spread of the disease, but also for formulating long term disease control strategy in the country or region. Recording the incidence of diseases is essential for estimating the economic loss, conducting risk analysis and also for obtaining disease free status of the country.

Under this Scheme, it is proposed to introduce an online disease reporting system in the

country in the form of National Animal Disease Reporting System (NADRS). In the proposed system, a dedicated computer network will be established linking each Block of the District to the District head quarter, each District of the State to the State headquarter, and each State to the Country's Central Unit. The information available at the Block level would be electronically transmitted to the District veterinary office as well as the State office. Finally from all the States the information would be compiled and transmitted to the Centre at the Department of Animal Husbandry and Dairying. The computer linkages would reduce data transmission time as well as data compilation and report generation.

Under this Scheme, the following programmes have been started:

- 417 computers (Two at State Level, 30 at District Level and 385 at Block Level) were supplied by National Informatics Centre (NIC).
- Nodal officers identified along with Contact details and communicated to Govt. of India and training is provided by NIC for implementation.
- Government of India released Rs.5.00 lakh for the purchase of photo copier, fax

machine and publication of monthly disease bulletin.

#### **20.3.10 NATIONAL CONTROL PROGRAMME OF PESTE DES PETITS RUMINANTS (NCP PPR)**

Peste des Petits Ruminant (PPR) is an important viral disease, primarily of sheep and goats showing the same symptoms as that of Rinderpest. PPR infection is one of the causes for heavy losses in the rural economy due to high morbidity and mortality in sheep and goats. Epidemics of PPR may have enormous consequences in terms of the drastic effects on livestock productivity and the high costs of control or eradication. In India stamping out by slaughter is not feasible, both for economic and sentimental reasons. The only option left is to control the disease by vaccination so that the immediate loss could be prevented. To control this disease, Government of India have sanctioned a total of Rs. 3.83 crores to our State.

#### **20.3.11 NATIONAL CONTROL PROGRAMME FOR BRUCELLOSIS (NCPB)**

To achieve the ultimate goal of 'Zero Incidence' of *Brucellosis* in Tamil Nadu especially

in 'Endemic areas' by regular Screening and calf-hood vaccination', screening of farm animals in all Government Livestock Farms in Tamil Nadu at regular interval, elimination of Reactors' and calf-hood vaccination to achieve and maintain 'Zero Incidence' status of 'Brucellosis' and to strengthen the 'production unit' at I.V.P.M., Ranipet, to manufacture more number of doses of *Brucella abortus* Vaccine using of *S19-Strain* and antigens/anti-serum to cater to the needs of 'Brucellosis Control Programme', the Government of India have sanctioned Rs.92.00 lakhs to Tamil Nadu.

### **20.3.12 CAPACITY BUILDING FOR POVERTY REDUCTION SCHEME**

The department is implementing a pilot project on "Geo referencing of facilities and monitoring of activities in four districts by developing an integrated Geographical Information System" with funds sourced from Government of India under 'Capacity Building for Poverty Reduction' Scheme.

As per the scheme, all the veterinary institutions located in Coimbatore, Erode, Salem

and Namakkal districts besides the facilities like livestock markets, slaughter houses, poultry farms etc are being geo referenced using Geographical Positioning System (GPS) and ARCGIS software. Besides these facilities, data on villages with history of livestock diseases as well as villages where Mass Contact Programmes are conducted etc are also being integrated. The above mentioned activities are sure to help in taking decision regarding locating new institutions selecting villages for conducting camps, integrating livestock census data etc.,

### **20.3.13 LIVESTOCK CENSUS**

Livestock Census is a 100% Centrally Sponsored Scheme. The census on Livestock, Poultry, Agriculture implements and Fisheries is conducted once in 5 years.

The 18<sup>th</sup> Quinquennial Livestock Census was conducted in this State with reference date 15.10.2007. The 18<sup>th</sup> Census Quick results have been published by the Government of India. The data has been forwarded to the Regional Joint Directors of Animal Husbandry for verification.

## **20.4 CENTRAL AND STATE SHARED SCHEMES**

### **20.4.1 ASSISTANCE TO STATES FOR CONTROL OF ANIMAL DISEASES (75:25)**

Under this component, assistance is provided to State Government for control of economically important diseases of livestock and poultry by way of immunization, strengthening of existing State Veterinary Biological Production Units, strengthening of existing State Disease Diagnostic Laboratories, holding workshops/seminars and in-service training to Veterinarians and Para-veterinarians. The programme is being implemented on 75:25 sharing basis between the Centre and the State; however, 100 % assistance is provided for training and seminar/workshops.

The main aim of the programme is protecting livestock against endemic diseases. During 2011-12, it is proposed to cover the following vaccination target:

- 22 Districts for Anthrax vaccination with 26.00 lakhs,
- 8 Districts for Black quarter vaccination with 3.00 lakhs,
- Kancheepuram District for Haemorrhagic septicemia vaccination with 5.00 lakhs, and

- 9 Districts for Sheep pox vaccination with 3.00 lakhs.

### **20.4.2 ESTABLISHMENT AND STRENGTHENING OF EXISTING VETERINARY HOSPITALS AND DISPENSARIES (ESVHD) (75:25)**

The Department has identified several Veterinary institutions that urgently require new building and require repairs and renovations. Government of India have sanctioned 1st installment of Rs.6.72 crores as Central share and Rs. 2.24 crores as State share for establishing 4 Veterinary Hospitals, 20 Veterinary Dispensaries and Strengthening 16 Veterinary Hospitals, 74 Veterinary Dispensaries during 2011-12 at a total cost of Rs.8.96 crores.

### **20.4.3 ASSISTANCE TO STATE POULTRY FARMS (80:20)**

To improve the economic conditions and living standards of rural people by encouraging them in poultry rearing, to create additional avocations, employment opportunities and supplement the income of marginal farmers, landless labourers, Self Help Groups and other socially backward sectors of the society and thereby improving their living standards, the department is implementing a Central and State share scheme



(80:20) at Poultry Farm, Kattupakkam. The Government have sanctioned Rs.68.00 lakhs to develop turkey units and a sum of Rs.34.00 lakhs was released as 1st Instalment in 2008-09.

#### **20.4.4 INTEGRATED SAMPLE SURVEY SCHEME (50:50)**

From the year 1977, the Government of India provides grant in-aid to the State on 50:50 sharing basis for the implementation of the Integrated Sample Survey Scheme, covering all the Districts. The main objective of the scheme is to estimate the production of milk, egg, wool and meat and to study the Animal Husbandry attendant practices of livestock in the State.

Since the livestock products have attained much importance for the purpose of planning and are considered as one among the major economic indicators, this survey is continued as a regular feature.

The season wise estimated production of milk, egg and meat during the year 2010-11 is as follows:

**Table 14 : Season wise estimated production of Milk, Egg and Meat (Provisional)**

<b>Item</b>	<b>Summer Season</b>	<b>Rainy Season</b>	<b>Winter Season</b>	<b>Total</b>
Milk (Thousand tonnes)	2099.885	2232.950	2084.301	6417.136
Egg (Lakh numbers)	38351.774	39078.792	37706.597	115137.163
Meat (Thousand tonnes)	139.915	145.176	139.196	424.287

## **21. VETERINARY SERVICES**

Animal health care services and prevention of animal diseases is a priority for maintenance of a healthy stock for optimum production. Protective and promotional activities of the Animal Husbandry Department are being undertaken through various institutions such as, Veterinary Poly Clinics, Clinician Centres, Veterinary Hospitals, Veterinary Dispensaries, Mobile Veterinary Units, Upgraded Veterinary Sub centres and Sub centres.

### **21.1 Veterinary Institutions**

Veterinary Institutions have expanded from a humble beginning of around 120 institutions

during 1959-60 to 3,358 institutions during 2010-11. At present, the veterinary institutions comprising 6 Polyclinics, 22 Clinician Centres, 139 Veterinary Hospitals headed by Assistant Directors, 1,207 Veterinary Dispensaries and 55 Mobile Veterinary Units manned by Veterinary Assistant Surgeons and 444 Upgraded Veterinary Sub centres manned by Junior Veterinary Assistant Surgeons provide Veterinary Services.

Polyclinics are functioning in six Municipal Corporations namely, Chennai, Madurai, Coimbatore, Tirunelveli, Salem and Tiruchirapalli. They provide specialized services in Gynaecology, Surgery, Medicine, X-ray and inpatient facilities, apart from regular treatment. These institutions also perform artificial insemination for improving the local cattle and buffaloes and also provide health care through vaccination and deworming. The problems of infertility are also taken care of by these institutions. To expand the veterinary health services, 200 Sub centres are upgraded as Upgraded Veterinary Sub centres.

Mobile Veterinary Units manned by Veterinary Assistant Surgeons provide veterinary health services namely, treatment, vaccination, deworming and breeding coverage to livestock reared by farmers residing in remote areas who

face difficulties to reach veterinary institutions. These Units go around their area of operation on a scheduled programme. The services provided by these Units are well recognized by the public as they provide benefits at the doorsteps of the farmers. During the year 2010-11, 3.85 lakhs of livestock were treated by these Units.

### **21.2 Sub Centres**

Sub centres are manned by Livestock Inspectors and provide first-aid to ailing animals besides carrying out Artificial Insemination for cows and buffaloes. They also conduct pregnancy verification, livestock and poultry census enumeration work in their Sub Centre area. Their services are also utilized for vaccination and deworming under the technical guidance of Veterinary Assistant Surgeon. At present, 1,485 Sub Centres are functioning in various parts of the State.

### **21.3 DISEASE PREVENTION, DIAGNOSIS, CONTROL AND ERADICATION**

As the adage goes "Prevention is better than cure", this department is giving paramount importance to the prevention of diseases in

livestock and poultry. Outbreaks of diseases cause huge economic loss to the farming community. The bacterial and viral diseases cause heavy morbidity and mortality where as protozoan and gastro intestinal parasitic diseases cause production losses. Control and eradication of many animal diseases is a must not only for profitable livestock production but also essential to make our livestock and livestock products globally acceptable. Systematic control of diseases will progressively lead to its containment first and eradication ultimately.

#### **A) DISEASE PREVENTION:**

##### **Institute of Veterinary Preventive Medicine, Ranipet (IVPM)**

The Institute of Veterinary Preventive Medicine, Ranipet, Vellore District is producing vaccines and other biological products required for the protection of livestock and poultry.

At present, the institute is producing 4 types of bacterial vaccines, 5 types of viral vaccines, 5 diagnostic reagents, 9 pharmaceuticals and one diluent. In addition, Indian Council for Agriculture Research aided All India Coordinated Research

Project (AICRP) on Foot and Mouth Disease is under operation in this Institute to undertake virus typing and sero-monitoring of vaccinated animals under FMD Control Programme.

**Table 15: Vaccines and Diagnostics Produced in the Institute of Veterinary Preventive Medicine, Ranipet**

Sl. No	Details	2011-12
		Target
1.	Black Quarter vaccine (in lakh doses)	5.00
2.	Haemorrhagic Septicaemia vaccine (Alum Precipitated) (in lakh doses)	6.00
3.	Enterotoxaemia vaccine (in lakh doses)	2.50
4.	Anthrax Spore vaccine (in lakh doses)	32.00
5.	Ranikhet disease 'K' vaccine (in lakh doses)	350.00
6.	Ranikhet disease 'F' vaccine (in lakh doses)	As per demand
7.	Duck Plague vaccine (in lakh doses)	85.0
8.	Ranikhet Lasota vaccine (in lakh doses)	As per demand
9.	Sheep Pox vaccine (in lakh doses)	As per demand

Sl. No	Details	2011-12
10.	Brucella abortus plate antigen (ml)	As per demand
11	Brucella abortus tube antigen (ml)	As per demand
12.	Brucella abortus milkring test antigen (ml)	As per demand
13.	Salmonella pullorum coloured antigen (ml)	As per demand
14.	California Mastitis test reagent (ml)	As per demand
15.	PBS (lt)	As per demand
16.	Boric ointment (kg)	As per demand
17.	Sulphur ointment (kg)	As per demand
18.	Zinc ointment (kg)	As per demand
19.	Whitefield ointment (kg)	As per demand

Good Manufacturing Practice (GMP) guidelines of World Health Organization (WHO) has been given "Mandatory status to Veterinary Biologicals by suitable amendments to Schedule 'M' of the Drugs and Cosmetics Act and Rules, 1940"

Ministry of Health, Government of India. The Drugs Control & Licensing Authority, Government of India has directed all the Veterinary Biologicals Manufacturing Units in the country to adopt GMP within a time frame.

As a first step, the Poultry Vaccine Production Laboratory is upgraded to GMP standards under ASCAD Scheme. Whereas, the laboratories meant for the manufacture of Bacterial Vaccines (constructed 20 years back), do not satisfy the requirements of GMP Standards. Since, Bacterial Vaccines are supplied at free of cost to vaccinate livestock of farmers of Tamil Nadu, the remaining Vaccine production laboratories and Quality Control divisions of the Institute are to be upgraded to GMP Standards under National Agriculture Development Programme at a total cost of Rs.7.52 crores.

## **B) DIAGNOSTIC SERVICES**

Accurate disease diagnosis plays a key role in strict monitoring and prevention of specific diseases. This department is monitoring the

disease situation in the State through a network of 20 Animal Disease Intelligence Units spread throughout the State and 2 Poultry Disease Diagnostic Laboratories in the poultry belts one at Andagalurgate (Namakkal district) and another at Erode which are functioning under the technical guidance of Central Referral Laboratory, Saidapet, Chennai. The details are as under:

**(I) ANIMAL DISEASE INTELLIGENCE UNITS**

They play a major role in developing a system of disease monitoring and surveillance of all important livestock and poultry diseases in the State. This in turn helps in evolving strategic control measures. They map out the disease prone areas by collecting epidemiological information and data. Based on their advisories, the field veterinarians take adequate protective and prophylactic measures well in advance. In addition, in disease outbreaks, they render technical assistance to field staff in diagnosis and control of diseases.

20 Animal Disease Intelligence Units functioning in the State are as detailed below:

**Table 16: Details of Animal Disease Intelligence Units in the State**

<b>S. No</b>	<b>Animal Disease Intelligence Unit</b>	<b>Districts covered</b>
1	Coimbatore	Coimbatore, Tiruppur
2	Cuddalore	Cuddalore
3	Dindigul	Dindigul
4	Erode	Erode
5	Kancheepuram	Chennai, Kancheepuram, Tiruvallur
6	Karur	Karur
7	Krishnagiri	Krishnagiri
8	Madurai	Madurai, Theni
9	Nagapattinam	Nagapattinam, Tiruvarur
10	Salem	Salem, Namakkal
11	Sivagangai	Sivagangai, Ramanathapuram
12	Thanjavur	Thanjavur, Pudukottai
13	Thoothukudi	Thoothukudi

14	Tiruchirapalli	Tiruchirapalli, Perambalur, Ariyalur
15	Tirunelveli	Tirunelveli, Kanyakumari
16	Udhagamandalam	Udhagamandalam
17	Vellore	Vellore, Thiruvannamalai
18	Villupuram	Villupuram
19	Virudhunagar	Virudhunagar
20	Dharmapuri	Dharmapuri

Apart from disease forecasting, attending to outbreaks, disease diagnosis conducting awareness camps and collection of serum samples from poultry for screening avian influenza, the Animal Disease Intelligence Units are keeping vigil on the movement of the migratory birds around Bird Sanctuaries and Water bodies and watch for any alarming deaths among birds to observe for incidence of Avian Influenza.

### **(II) POULTRY DISEASE DIAGNOSTIC LABORATORY**

The Poultry Disease Diagnostic Laboratories are mainly involved in conducting post-mortem, testing of droppings, blood samples and other specimens for accurate diagnosis of poultry diseases. In addition, they render technical advice to farmers for diagnosis, prevention and control of various infectious and parasitic diseases.

Now, Government of India has decided to set up BSL II laboratories in each State to screen and dispatch morbid samples as part of routine surveillance and samples collected from unusual mortality of poultry. The two Poultry Disease Diagnostic Laboratories are being upgraded as BSL II labs in our State. The upgraded labs will also test serum samples as preliminary screening for Bird flu virus and forward the positive samples to Referral Laboratories for further confirmation.

### **(III) CENTRAL REFERRAL LABORATORY**

One Central Referral Laboratory is functioning at Polyclinic Campus, Saidapet, Chennai to co-ordinate the work of Animal Disease Intelligence Units and Poultry Disease Diagnostic Laboratories and to help the field staff in diagnosis and allied activities. The timely diagnosis and confirmation of the diseases helps in containment of the disease and protecting other animals by prompt treatment and vaccination.

This laboratory also deals with testing of export materials from animal origin and issuing of health certificates. This year 107 export certificates were issued. This laboratory plays a vital role in creating awareness among poultry farmers about

Avian Influenza and trains field veterinarians and para veterinarians and Rapid Response Teams to act in case of emergency.

### **C) DISEASE CONTROL AND ERADICATION**

Control and eradication of many animal diseases is a must not only for profitable livestock production but also essential to make our livestock and livestock products globally acceptable. Presence of contagious diseases prevents our country in fully exploiting the international export market, as our livestock and livestock products should comply with the zoo-sanitary specification and standards prescribed by the Office International Epizootics (OIE) to freely enter and compete in world markets.

The timely and regular prophylactic vaccination of susceptible animals in the endemic areas has reduced the disease outbreaks in the State. Now, with the eradication of Rinderpest and containment of bacterial and viral diseases and several other steps taken, the State is steadily moving towards the goal of freedom from major animal diseases.

## **22. VETERINARY PUBLIC HEALTH**

Zoonotic diseases have emerged as a major public health concern in the modern era. With majority of the population living in rural areas and the farming system depending on livestock, the responsibility of animal health services in surveillance, prevention, control and possible eradication of zoonotic diseases are matter of great importance. Some of the services related to these aspects are detailed below:

### **22.1 CANINE RABIES CONTROL PROGRAMME**

Rabies is one of the important zoonotic diseases affecting mankind since time immemorial. Dogs play a major role in transmission of the disease to livestock. Vaccination against rabies and pet hygiene is of immense importance in controlling this disease. With this aim, Canine Rabies Control Programme Units are functioning at Madurai and Tirunelveli. The activities carried out by the units are:

- Systematic, periodical door-to-door prophylactic vaccination to pet dogs against rabies after collecting the cost of vaccine only.

- Post exposure vaccination of all livestock including dogs free of cost.
- Creation of awareness among the public about the serious impact of this disease, through publicity and propaganda by distributing pamphlets and handbills and by conducting dog shows.

## **22.2 MASS VACCINATION AND DEWORMING**

Deworming and routine vaccination will considerably reduce the disease incidence. The department is conducting regular vaccination and periodical deworming of livestock and poultry reared in the State. Therefore, spreading of zoonotic diseases like Anthrax, Brucellosis, Taeniasis, Strongylosis, Amphistomiasis etc., is greatly reduced, besides breaking the life cycle of parasites for which the human beings act as permanent or intermediate host.

## **22.3 MEAT INSPECTION**

Meat is a rich source of animal protein and essential minerals for human beings. Presently there are about 116 registered slaughter houses functioning in the State. To provide safe and wholesome meat and to prevent environmental

pollution, it is necessary that meat inspection work by competent veterinarians has all the more attained a special significance. By this, the chance of getting meat borne diseases like taeniasis, trichinosis and hydatidosis in meat consumers is almost eliminated.

## **23. EXTENSION SERVICES**

The department is also involving itself in conducting exhibitions at various places during local festivals, fairs and other occasions to educate the public on the latest developments in animal husbandry activities and on veterinary public health. Every year, the department also participates in the All India Tourist and Trade Fair conducted at Chennai and also in the Co-operative Week Celebrations. Latest information to farmers is carried through mass media like Television, All India Radio and the Press. In addition, leaflets, folders, pamphlets, newsletters and bulletins on the latest animal husbandry activities and emerging diseases are distributed to the public during the 'Kalnadai Padukappu Thittam' camps, fairs, festivals and local shandies conducted in various parts of the State to create awareness among the farmers. Regular weekly broadcasts on animal husbandry are made through All India Radio.



Animal Husbandry Department is participating in the following fairs:

- |                   |   |  |
|-------------------|---|--|
| ➤ Kodaikanal      | - | Kodai Vizha  |
| ➤ Yercaud         | - | Kodai Vizha  |
| ➤ Krishnagiri     | - | Mangani Vizha  |
| ➤ Villupuram      | - | Kalvarayan Malai<br>Kodai Fair                                     |
| ➤ Cuddalore       | - | Silver Beach Fair  |
| ➤ Thiruvannamalai | - | Javadhu Malai<br>Kodai Vizha                                       |
|                   |   |  |
| ➤ Chennai         | - | Island Ground<br>Trade Fair<br>(All India Tourist<br>& Trade Fair) |
| ➤ Madurai         | - | Trade Fair   |
| ➤ Namakkal        | - | Dog Show   |
| ➤ Tirunelveli     | - | Trade Fair   |

## 24. ANIMAL WELFARE MEASURES

To prevent cruelty to animals and to treat them ethically, the Government in coordination with Animal Welfare Board is addressing the problems of unethical treatment to animals in a three-pronged approach.

- ❖ At the Market Place

- ❖ During Transport
- ❖ In the Slaughter Houses

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.

The Government have constituted State Level Coordination Committee and District Level Coordination Committees to oversee the enforcement of Prevention of Cruelty to Animals, Rules.

## 25. 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 the 400 years and more. The District Administration conducts the Jallikattu in the Districts.

To ensure the safety of animals, participants and spectators, the Tamil Nadu Regulation of Jallikattu Act No.27 of 2009 came into force on 26.08.2009. During 2011, Jallikattu events were conducted from January 15th to May 15th in notified 26 villages spread over 13 Districts viz., Ariyalur, Dindigul, Karur, Madurai, Namakkal, Pudukottai, Salem, Sivagangai, Thanjavur, Theni, Tiruchirapalli, Virudhunagar and Vellore.

## **26. PROPOSED NEW SCHEMES FOR 2011-12**

### **26.1 SCHEME FOR FREE DISTRIBUTION OF MILCH COWS**

The Government of Tamil Nadu have planned to launch a "Scheme for Free Distribution of Milch Cows". Under the Scheme, 60,000 free Milch Cows (12,000 per year) will be distributed to the poor women beneficiaries in the rural areas at a cost of Rs. 232 crores in the next 5 years in order to give boost to the milk productivity of the State. During 2011-12, 12,000 beneficiaries will be benefited under this Scheme at a cost of Rs.56 crores.

The beneficiaries (who are only to be Women) should satisfy the following criteria:

- ✓ Women Headed households are to be given priority. (Widows, Destitutes, Disabled women and Transgenders will be given priority within this group).
- ✓ Are below 60 years of age.
- ✓ Do not own land over 1 acre in their own name or family members' name. (However, owning some land is preferable, since it will enable production of green fodder in own land).
- ✓ Do not own any cows / buffaloes at present.
- ✓ Are not employees of Central / State Government or any Organisation / Cooperative 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).
- ✓ Have not benefited from the free Goats / Sheep Scheme of the Government.
- ✓ Should be permanent resident of the Village Panchayat.

It has been decided to distribute the milch cows to only such Districts of the State (21 at present) that are deficit in milk production. Within each of the Districts also, the milch cows

will be given to beneficiaries of some such Village Panchayats that do not have co-operative milk societies as of now.

The beneficiaries will be initially shortlisted as per the norms specified by a Village level Committee consisting of the Panchayat President, the Vice President, the senior-most SC/ST ward member (by age) of the Village Panchayat, the Panchayat Level Federation (PLF) coordinator, an active SHG representative, the Veterinary Assistant Surgeon (VAS) of the area and the Dy. BDO (ADW). However, the final selection will be done by the **Grama Sabha**. 30% of the beneficiaries should be from SC/ST communities.

One unique feature of the Scheme is that the beneficiaries will be given the choice to select their own choice of Milch Cows of Cross-bred Jersey breed (and cross-bred Holstein Friesian breed for hilly areas) by going to the neighbouring State shandies. The beneficiaries will be given a lumpsum amount of Rs. 1,000 as travel/stay charges to select the cows of their choice, and they will also be given amount to transport the cows back to their villages. A fixed amount of Rs. 30,000 is earmarked for the purchase of the Milch cow, and if the beneficiary buys the cow at a lesser rate, the balance

amount (out of Rs. 30,000) will be given to him as a seed capital to maintain the cow. Insurance of the Milch cows will be done at Governmental cost.

After the distribution of the milch cows, the Dairy Development Department officials will take efforts to form societies of the beneficiaries and bring the Village Panchayat into the co-operative milk fold. A close follow up of the animals procured will be done by the Animal Husbandry Department officials.

## **26.2 SCHEME FOR FREE DISTRIBUTION OF GOATS / SHEEP**

The Government of Tamil Nadu have proposed to launch a "Scheme for Free Distribution of Goats / Sheep" to 7 lakh Poorest of the poor amongst the persons living in the rural areas at a total cost of Rs.925 crores to enhance their Standard of Living. During 2011-12, one lakh beneficiaries will be benefited under this Scheme at a cost of Rs.135 crores.

The beneficiaries (who are only to be Women) should satisfy the following criteria:

- ✓ Women Headed households are to be given priority. (Widows, Destitutes, Disabled

women and Transgenders will be given priority within this group).

- ✓ Must be the Landless Agricultural Labourers.
- ✓ Should be a permanent resident of the Village Panchayat.
- ✓ The beneficiary household should have at least one member between the age of 18 and 60 to effectively rear the Goats / Sheep.
- ✓ Should not own any Cow / Goat / Sheep at present.
  
- ✓ Should not be an employee of Central / State Government or any Organisation / Cooperative 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).
- ✓ Should not have benefited from the free Milch Cows Distribution Scheme of the Government.

It has been decided to distribute the sheep/goat to the poorest of the poor in all Village Panchayats of the State across a period of 5 years. The number of beneficiaries in each Village Panchayat will be selected in proportion to the population of the Village Panchayat. Approximately one-fifth of the Village

Panchayats will be taken up for distribution of sheep/goat each year in each Block of the District.

The beneficiaries will be initially shortlisted as per the norms specified by a Village level Committee consisting of the Panchayat President, the Vice President, the senior-most SC/ST ward member (by age) of the Village Panchayat, the Panchayat Level Federation (PLF) coordinator, an active SHG representative, the Veterinary Assistant Surgeon (VAS) of the area and the Dy. BDO (ADW). However, the final selection will be done by the **Grama Sabha**. 30% of the beneficiaries should be from SC/ST communities.

One unique feature of the Scheme is that the beneficiaries will be given the choice to select their own choice of Goats/Sheep (4 Goats or 4 Sheep- and amongst these, 3 females and one male ordinarily) by going to the neighbouring shandies or getting these from high quality breeders. The beneficiaries will be given a lumpsum amount to transport the goats/sheep back to their villages. A fixed amount of Rs. 12,000 is earmarked for the purchase of the 4 Goats/sheep per beneficiary (that includes Rs 10,000 for purchase of animals and Rs.2,000 as seed money to establish shed, buy feed etc.). If

the beneficiary buys the Goats/sheep at a lesser rate than the amount earmarked, the balance amount (out of the total amount earmarked) will be given to him as additional assistance to maintain the Goats/sheep. Insurance of the animals will be done at Governmental cost.

A close post-purchase hand-holding and follow up of the animals procured will be done by the Animal Husbandry Department officials.

### **26.3 STATE FODDER DEVELOPMENT SCHEME**

The Government of Tamil Nadu is proposed to implement the scheme for augmenting fodder in the farmers land to ensure the sustainability of the free distribution Milch cows / Goats / Sheep to the farmers. Besides, the proposed fodder development schemes will ensure the additional fodder production to reduce the gap between the requirements and availability. In order to reduce the gap of 42.60% fodder shortage, it is proposed to develop green fodder on 24,000 acres of land, to distribute 5,000 units of grass cutters with 50% subsidy and 5,000 units of choppers with 75% subsidy to benefit the farmers during 2011-12.

### **26.4 CENTRALLY SPONSORED FODDER DEVELOPMENT SCHEMES**

Under 100% centrally sponsored feed and fodder development scheme, fodder development will be carried out in farmers' own land and Departmental Farms at a total cost of Rs.64.00 lakhs.

Under a Central and State Share Scheme (75:25), Hand operated and power driven chaff cutters will be distributed to farmers at a total cost of Rs.57.00 lakhs.

## **27. STRENGTHENING THE DEPARTMENT OF ANIMAL HUSBANDRY**

### **27.1 CREATION OF SCHEME MONITORING CELL AT THE DIRECTORATE**

For the effective implementation of the Scheme for Free distribution of Milch cows and Scheme for free distribution of Goats/Sheep, the Government has proposed to establish a Monitoring Cell at the Directorate level with one Joint Director and two Assistant Directors with supportive staff.

## **27.2 CREATION OF 11 ASSISTANT DIRECTORS' OFFICES**

For effective administration of the regular departmental activities and close monitoring of the free distribution of Milch cow and Goats/Sheep Schemes, it is proposed to create 11 new Assistant Directors office with supporting staff in the field level to match at least the total number of Revenue Divisions in the State. Thus the total number of Animal Husbandry divisions will be increased from 65 to 76.

## **27.3 UPGRADATION OF 385 SUB CENTRES INTO RURAL VETERINARY DISPENSARIES**

Implementation of Animal Husbandry Schemes can only be successful, if there is adequate strengthening of the extension machinery and veterinary services across the State. Hence, it is proposed to upgrade 385 sub centres as Rural Veterinary Dispensaries. These 385 Rural Veterinary Dispensaries and 200 sub centres already upgraded during 2011 will be filled by posting a Veterinary Assistant Surgeon.

## **27.4 INFRASTRUCTURE IMPROVEMENT PROGRAMME**

At present most of the veterinary Institutions are in dilapidated conditions. So it is necessary to improve the infrastructure of those building, to deliver day to day activities of the animal holders. Hence, it is proposed to upgrade / renovate the existing infrastructure of Veterinary Institutions at a cost of Rs. 25 crores during 2011-12.

## **27.5 PART II SCHEME 2011-12**

The following two components are proposed at a total cost of Rs.124.95 lakhs.

- ✚ Replacement of Vehicle to 14 Regional Joint Directors of Animal Husbandry (Light Motor Vehicle) for a total sum of Rs.84 lakhs at Rs.6.00 lakhs per vehicle.
- ✚ Provision of furniture to 300 Upgraded Sub centres for strengthening the infrastructure facilities at a total cost of Rs.40.95 lakhs.

## **28. NATIONAL BANK FOR AGRICULTURE AND RURAL DEVELOPMENT (NABARD – RIDF XVII)**

Following infrastructural facilities are proposed for 2011-12 at a total cost of Rs.122.24 crores:

Veterinary Dispensaries cater to the needs of timely diagnosis and appropriate treatment of common ailments, deficiencies and injuries, veterinary services like treatment, deworming, castration and immunisation against all diseases. For these works every dispensary will require various infrastructure facilities. It is proposed to construct buildings for 336 Veterinary Dispensaries at a total cost of Rs.89.58 crores.

Veterinary Hospitals perform the functions as that of Veterinary Dispensaries, but the number of cases treated will be more, besides having exclusive facilities for diagnosis. It is proposed to construct buildings for 14 Veterinary Hospitals at a total cost of Rs.3.73 crores at the rate of Rs.26.66 lakhs per Veterinary Hospital in such places where these facilities are not available.

Veterinary Polyclinics provide diagnoses, treatment or advice in various branches of Animal Health and Veterinary Medical Service. The specialised veterinary medical services are in Surgery, Radiology, Clinical Medicine, Laboratory Diagnostics, Reproduction technology, gynecology and obstetrics. It is proposed to construct one Polyclinic at the cost of Rs.69.00 lakhs.

Animal Disease Intelligence Units play a major role in developing a system of disease monitoring and surveillance of economically

important livestock diseases with a view to evolve strategic control measures at the district level. It is proposed to undertake construction of new buildings for 3 units at the total cost of Rs.1.37 crores, at the rate of Rs.45.50 lakhs per unit that are functioning in rented buildings / do not have facilities for conducting laboratory works.

Frozen Semen Banks accommodate the Cattle Breeding and Fodder Development Office with provision for storage of Liquid Nitrogen and Frozen Semen Straw to be distributed to the Artificial Insemination centres. It is proposed to construct buildings at five places at the total cost of Rs.2.18 crores at the rate of Rs.43.50 lakhs per Frozen Semen Bank.

Eleven Livestock Farms which lack the infrastructure facilities viz., animal houses, purchase of equipments, purchase of animals, etc., for providing quality off spring's were studied and analysed. Based on the analysis report and the individual requirement of farms, a total of Rs.24.70 crores is allotted during 2011-12 for infrastructure development of the farms.

## **29. TAMIL NADU LIVESTOCK DEVELOPMENT AGENCY**

### **29.1 INTRODUCTION**

Tamil Nadu Livestock Development Agency (TNLDA) has been established as an autonomous State Implementing Agency to implement the National Project for Cattle and Buffalo Breeding (NPCBB) in Tamil Nadu and is functioning since 09-01-2003.

The primary aim of the Agency is to increase milk production and per animal productivity.

The objective of the agency includes bringing all the breedable female cattle and buffaloes under defined breeding programme through artificial insemination and natural service in a phased manner.

### **29.2 OBJECTIVES**

1. Quality control of goods and services in breeding.
2. Supply of quality genetic inputs.
3. Introduction of quality bulls with high genetic merit for frozen semen production.
4. Intensification of Progeny Testing Scheme (PTS)

5. Identification of elite cows through Field Performance Recording Programme (FPRP).
6. Increasing the breeding facilities;
  - Establishing new mobile AI centres by training rural youth and equipping them
  - Encouraging Door-step delivery of breeding services
  - Facilitating stationary AI centre to perform mobile AI work by conversion of existing Stationary Artificial Insemination Centre into Mobile cum Stationary Centre.
7. Support for acquisition of frozen semen and artificial insemination equipment.
8. Streamlining storage and supply of liquid nitrogen.
9. Conservation of indigenous breeds.
10. Human Resources Development through regular training.

### **29.3 QUALITY ASSURANCE**

The Minimum Standard Protocol (MSP) of the Government of India for frozen semen production stations is implemented in the State. The semen stations are periodically evaluated by the Central Monitoring Unit of Government of India to ensure quality semen production. Towards procurement of



quality inputs for genetic upgradation, Frozen Semen Straws produced from bulls of superior genetic quality are purchased and supplied to the Department of Animal Husbandry.

#### **29.4 ACTIVITIES UNDERTAKEN**

##### **i. Strengthening of Frozen Semen Production Stations**

To strengthen Frozen Semen Station, installation of two liquid nitrogen bulk storage silos, construction of bull sheds, modification of processing laboratory, acquiring ISO 9001:2008 certification and procurement of quality breeding bulls are being taken up.

##### **ii. Embryo transfer programme**

The embryo transfer unit at District Livestock Farm, Hosur is being strengthened and an embryo transfer programme has been initiated.

##### **iii. Strengthening of Artificial Insemination Network in the State by establishing new Mobile Artificial Insemination Centres**

- a) 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 Centres.

- b) Retired Veterinarians / Livestock Inspectors have been provided with necessary facilities to carry out artificial insemination at farmers' doorstep.

##### **iv. Strengthening and Streamlining of Liquid Nitrogen**

To strengthen the Liquid nitrogen storage at the semen banks, steps have been taken to install bulk liquid nitrogen storage Silos of 3000 lit capacity one each at the District Co-operative Milk Producers' Union, Dharmapuri and Cattle Breeding and Fodder Development, Sivaganga.

##### **v. Distribution of Young Breeding Bulls For Natural Service**

12 breeding bulls have been procured and distributed to beneficiaries for natural service purpose.

##### **vi. Training Programmes**

Tamil Nadu Livestock Development Agency has arranged and sponsored the following training programmes.

- a) Veterinarians working in Frozen Semen production stations, are trained on Frozen Semen Processing technology, Veterinarians of Animal Husbandry Department and Tamil Nadu Co-operative Milk producers' Federation have been given refresher training on "Bovine breeding".
- b) Village level workers and Private Artificial Insemination workers have been given the training on bovine breeding.
- c) Livestock Inspectors of Animal Husbandry Department have been given retraining at Exotic Cattle Breeding Farm, Eachenkottai, Thanjavur.

#### **vii. Progeny Testing Scheme (PTS)**

The Progeny testing, fifth batch of 23 Crossbred Jersey bulls and sixth batch of 20 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. The seventh batch of 25 crossbred Jersey bulls have been put into test.

#### **viii. 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 has been initiated in the milk unions of Coimbatore, Dharmapuri, Erode, Madurai, Salem, Tirunelveli, Thiruchirapalli and Vellore.

#### **ix. Infertility Camps**

Fund has been released to Department of Animal Husbandry to organizing 577 Cattle and buffalo fertility camps and to Tamil Nadu Co-operative Milk Producers' Federation limited for organizing 385 camps.

#### **29.5 LIVESTOCK INSURANCE SCHEME**

The Centrally sponsored Livestock Insurance Scheme is being implemented by Tamil Nadu

Livestock Development Agency. Under the Scheme, 50% of the premium is provided as Government subsidy and balance 50% is collected from the beneficiaries. In the current year the Scheme is to be implemented in 15 districts viz., Coimbatore, Erode, Salem, Namakkal, Trichy, Thanjavur, Madurai, Dindigul, Tirunelveli, Tiruvannamalai, Cuddalore, Dharmapuri, Krishnagiri, Villupuram and Vellore with a target of insuring 1.5 lakh Milch animals.

### **30. TAMIL NADU VETERINARY AND ANIMAL SCIENCES UNIVERSITY**

*"A country rich in livestock is never poor  
and a country poor in livestock is never rich"*

- Arab Proverb

#### **30.1 OBJECTIVES**

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 Processing Technology.
- ◆ 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.

### 30.2 UNITS OF TANUVAS

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

**Table 17**  
**Constituent units of TANUVAS**

<p>❖ <b>COLLEGES</b></p> <ul style="list-style-type: none"> <li>▪ Madras Veterinary College, Vepery, Chennai</li> <li>▪ Veterinary College and Research Institute, Namakkal</li> <li>▪ Fisheries College and Research Institute, Thoothukkudi</li> <li>▪ Institute of Food and Dairy Technology, Koduvalli, Chennai</li> </ul>
<p>• <b>CENTRES OF ADVANCED STUDIES (CAS)</b></p> <ol style="list-style-type: none"> <li>1. Veterinary Clinical Medicine, Ethics and Jurisprudence, Madras Veterinary College, Chennai</li> <li>2. Poultry Science, Veterinary College and Research Institute, Namakkal</li> </ol>
<p>▪ <b>CENTRE OF EXCELLENCE</b></p> <ol style="list-style-type: none"> <li>1. Centre of Excellence in Animal Biotechnology and Immunology, Madras Veterinary College, Chennai</li> </ol>
<p>❖ <b>RESEARCH STATIONS</b></p> <ol style="list-style-type: none"> <li>1. Institute of Poultry Production and Management, Chennai</li> </ol>

<ol style="list-style-type: none"> <li>2. Livestock Research Station, Kattupakkam, Kanchipuram</li> <li>3. Mecheri Sheep Research Station, Pottaneri, Salem</li> <li>4. Sheep Breeding Research Station, Sandynallah, Udthagamandalam</li> <li>5. University Research Farm, Madhavaram, Chennai</li> <li>6. Institute of Animal Nutrition, Kattupakkam, Kancheepuram</li> <li>7. TANUVAS Small Ruminants Research Centre, Tirunelveli</li> </ol>
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<p>❖ <b>VETERINARY UNIVERSITY TRAINING AND RESEARCH CENTRES</b></p> <ol style="list-style-type: none"> <li>1. Coimbatore</li> <li>2. Dindigul</li> <li>3. Karur</li> <li>4. Melmaruvathur</li> <li>5. Cuddalore</li> <li>6. Salem</li> <li>7. Tiruppur</li> <li>8. Tiruchy</li> <li>9. Dharmapuri</li> <li>10. Erode</li> <li>11. Madurai</li> <li>12. Parakkai</li> <li>13. Rajapalayam</li> <li>14. Thanjavur</li> <li>15. Vellore</li> </ol>
<p>❖ <b>VETERINARY UNIVERSITY REGIONAL RESEARCH CENTRE, PUDUKOTTAI</b></p>

❖ <b>FISHERIES' TRAINING AND RESEARCH CENTRE</b> 1. Parakkai    2. Thanjavur
❖ <b>Avian Disease Laboratory</b> 1. Thalaivasal
❖ <b>LABORATORIES</b> 1. Animal Feed Analytical and Quality Assurance Laboratory, Namakkal 2. Poultry Disease Diagnosis and Surveillance Laboratory, Namakkal 3. Pharmacovigilance Laboratory for Animal Feed and Food Safety, Chennai 4. Central University Laboratory, Madhavaram Milk Colony, Chennai 5. Leptospira Research Laboratory, Madhavaram Milk Colony, Chennai 6. Shrimp Disease Diagnostic Laboratory, Madhavaram Milk Colony, Chennai 7. Bacterial Vaccine Research Centre, Madhavaram Milk Colony, Chennai 8. Viral Vaccine Research Centre, Madhavaram Milk Colony, Chennai

9. Centralised Instrumentation Laboratory, Madras Veterinary College, Chennai 10. Centralised Clinical Laboratory, Madras Veterinary College, Chennai
❖ <b>Farmers Training Centre</b> 1. Kancheepuram    2. Theni    3. Thiruvarur
❖ <b>Krishi Vigyan Kendra</b> 1. Kattupakkam    2. Kundrakudi    3. Namakkal

### 30.3 ACTIVITIES OF TANUVAS

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

#### 30.3.1 EDUCATION

- ★ Details of sanctioned students admission strength during the year 2011-2012 at TANUVAS are furnished below.

**Table 18 :Students admission strength**

Courses	Madras Veterinary College, Chennai	Veterinary College and Research Institute, Namakkal	Fisheries College and Research Institute, Thoothukudi	Institute of Food and Dairy Technology, Koduvalli	Total
B.V.Sc. & AH	146	80	-	-	<b>226</b>
B.V.Sc. & AH (NRI-5 ; Foreign Nationals – 5 and Kashmiri migrants – 1)	6	5	-	-	<b>11</b>
B.F.Sc	-	-	40 *	-	<b>40</b>
B.F.Sc (NRI-1 and Foreign Nationals – 3)	-	-	4	-	<b>4</b>
B.Tech. (Food Processing Technology)	-	-	-	20	<b>20</b>
B.Tech. (Poultry Production Technology)	-	-	-	20	<b>20</b>
M.V.Sc	116		-	-	<b>116</b>
M.F.Sc	-	-	29	-	<b>29</b>
M.Tech	-	-	-	3	<b>3</b>
M.Sc.	8	-	-	-	<b>8</b>
M.Phil	8	-	4	-	<b>12</b>
PG Diploma (Animal Sciences)	30	-	-	-	<b>30</b>
PG Diploma (Fisheries Sciences)	-	-	6	-	<b>6</b>
PG Diplomas through Distance Education	80	-	-	-	<b>80</b>
Ph.D. (Veterinary)	98		-	-	<b>98</b>
Ph.D. (Fisheries)	-	-	15	-	<b>15</b>

\* During 2011-12, 35 seats in B.F.Sc. programme have been increased to 40

### 30.3.2 RESEARCH

- ❖ Forty-one externally funded research programmes at a total outlay of Rs. 965.47 lakhs are on anvil.
- ❖ Under University Plan, 83 Plan Schemes with the financial outlay of Rs.9,517.49 lakhs 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.
- ❖ During 2011-12, Government of Tamil Nadu has sanctioned the following four schemes at a total cost of Rs.42.55 Lakhs under Part II :
  - ↪ Establishment of modern Salem Black Goat unit and optimization of feeding standards for economical production in dry land tract
  - ↪ Entrepreneurship development programmes on hygienic meat production and value – addition for Women SHG members and entrepreneurs for their livelihood

- ✎ Surveillance and management of anthelmintic resistance in sheep
- ✎ Environment friendly limited water exchange shrimp culture by biofloc technology

### **Agreement Signed**

- With National Institute of Siddha, Tambaram, Chennai to undertake collaborative research work.
- With Directorate General, RVS (Indian Army), New Delhi to give skill development training to undergraduates on need basis.
- With University of Arizona and Auburn University, USA to undertake student and faculty exchange in education and research programme in fisheries faculty.

### **Research Achievements in Animal Sciences**

#### **Animal Health**

- ✎ Development of vaccine against Coliform mastitis
- ✎ Development of Recombinant Fusion Protein Vaccine for Johne's Disease
- ✎ Development of Recombinant vaccine for leptospira

- ✎ Application of Mesenchymal stem cells for anticancer drug screening
- ✎ Development of *Eimeria brunetti* Specific PCR

### **Animal Production**

#### ***Validating the research on mineral map of Tamil Nadu***

Area specific mineral mixture developed at TANUVAS has been named as TANUVAS – SMART (Specific Mineral Array for Regions of Tamil Nadu) mineral mixture which is suitable for low and medium level milk yielding dairy cows. A supportive software embedded with artificial intelligence has been evolved and is ready for commercialization.

#### ***Genetic Upgradation of Cattle and Buffaloes in Tamil Nadu: Adoption of Oestrus Synchronization Technique to Improve Productive and Reproductive Potential***

Under this program, 326 bovine infertility camps / mass contact programmes were conducted at village level in all the districts. Totally 24,234 cows and buffaloes were examined in the camps conducted. Out of this 11,685 animals were selected for the project and mineral mixtures and deworming drugs were distributed. Synchronization

programme was initiated in 10,763 bovine. The conception rate achieved was about 60%.

### **Technologies developed**

1. Carotene enriched milk drink
2. Enriching and ensiling of sugar cane tops
3. Maize silage
4. Hot filled chilled fish curry
5. Latex agglutination test kit for chicken anaemia virus
6. Flow through technique for diagnosis of hydatidosis
7. Microbial assay for the detection of chloramphenicol residues in shrimps
8. Raceway technology for intensive nursery rearing of ornamental fishes
9. Cichlid breeding using mud pots

### **30.3.3 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 2011-2012 (upto 31.07.2011)**

Description	Hospitals		
	Madras Veterinary College, Vepery, Chennai	Veterinary University Peripheral Hospital, Madhavaram	Veterinary College and Research Institute, Namakkal
<b>Canine</b>	22169	3760	2975
<b>Bovine</b>	2841	301	1297
<b>Feline</b>	901	85	87
<b>Equine</b>	374	-	20
<b>Caprine/Ovine</b>	998	181	864
<b>Avian</b>	1853	354	21
<b>Others</b>	504	73	70
<b>Total</b>	<b>29640</b>	<b>4754</b>	<b>5334</b>

### **Inpatient facilities**

- ⊕ In Madras Veterinary College teaching hospital at Vepery, 107 large and 32 small animals were admitted and treated as in-patients for various ailments.
- ⊕ At Veterinary College and Research Institute, Namakkal, 936 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 and facilities available**

1. Gastrofibroscope
2. Bronchofibroscope
3. Endoscopic image documenting system
4. Digital phonocardiograph
5. Dental scalar
6. Aloka Colour Doppler Ultrasound-SSD-3500 SV
7. Ultra Sound Scanner 'Honda' Veterinary Linear Scanner with rectal probe

#### **Laboratory services**

- ***Pharmacovigilance Laboratory for Animal Feed and Food Safety, Madhavaram, Chennai***

This laboratory is involved in analysis of mycotoxins, pesticide and drug residues in animal feed and food. During the period under report, 184 samples were analysed for xenobiotic residues.

- ***Animal Feed Analytical and Quality Control Laboratory, Namakkal***

A total of 596 poultry and livestock progressive farmers from various parts of Tamil

Nadu and other states were advised regarding analysis of feed ingredients and feeds. They were counselled on various problems in feeding practices. During the reporting period, 4,951 samples were tested and 12,309 analyses were carried out at this laboratory.

- ***Leptospirosis Research Laboratory, Madhavaram***

A total of 1,097 human serum samples and 342 animal serum samples from suspected cases were screened by MAT for detection of leptospiral antibody. Out of 1,097 human samples tested, 429 (39.11%) were found positive.

#### **30.3.4 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.

**Table 20. Training Programmes Conducted during 2011-2012 (upto 31.7.11)**

Title of the Training Programme	No. of Training Programmes		Beneficiaries				Total
			SC/ST		Others		
	On campus	Off campus	Men	Women	Men	Women	
Dairy farming	24	34	205	529	640	860	2234
Sheep & Goat farming	28	4	59	124	489	117	789
Poultry Farming	33	5	153	72	791	155	1171
Turkey Farming	3	-	11	1	25	3	40
Japanese Quail farming	9	1	35	3	184	13	235
Pig farming	5	-	16	-	59	6	81
Rabbit farming	3	-	6	1	65	5	77
Milk and Milk products	2	8	6	101	116	131	354
Home Science	8	-	8	2	44	67	121
Horticulture	3	9	32	5	175	42	254

Title of the Training Programme	No. of Training Programmes		Beneficiaries				Total
			SC/ST		Others		
	On campus	Off campus	Men	Women	Men	Women	
Integrated livestock farming	14	6	352	294	85	124	855
Fish farming	15	11	45	21	133	108	307
Agricultural Engineering	1	-	1	-	14	2	17
Feed and Fodder Cultivation	12	10	84	95	188	100	467
Disease diagnosis and Management	4	6	22	51	94	94	261
Breeding problems & its management in crossbreds	2	2	35	22	33	8	98
Production of Value added fishery products	-	5	-	133	1	-	134
Ethno Veterinary medicine	4	5	120	11	145	29	305
Ornamental fish culture	2	-	1	-	6	15	22
Composite fish culture	1	-	8	-	-	-	8
<b>Total</b>	<b>173</b>	<b>106</b>	<b>1199</b>	<b>1465</b>	<b>3287</b>	<b>1879</b>	<b>7830</b>

## **30.4. FUTURE PROGRAMMES**

### **i. Establishment of New Veterinary Colleges**

The Government is implementing the Scheme of distribution of milch cows and sheep and goat free of cost to people in order to improve their livelihood and rural economy. The Government is also planning a set of programmes to improve livestock economy of the State in a comprehensive manner by undertaking intensified fodder production, establishment of fodder seed banks, distribution of mineral mixtures, ensuring mobile veterinary services, improved reproduction through artificial insemination, health cover etc. For the purpose, more number of veterinarians are to be recruited. Further, as the dairy and poultry sectors are showing a high growth rate in the country, more number of veterinary graduates will be required in future. To meet the demand, the Government will start new Veterinary Colleges in Tirunelveli and Orathanadu of Thanjavur district this year. Livestock farmers in both the regions will also be benefitted through high quality veterinary services and instant transfer of scientific technologies.

### **ii. Institute of Poultry Production and Management at Hosur**

To undertake advanced research in poultry production and management, the Government is establishing the Institute of Poultry Production and Management at Hosur with facilities of international standards. The production efficiency of broiler, layer and breeder poultry reared in the State will be improved by planning research projects on specific nutrient requirements, alleviation of climatic stress, control of emerging diseases, producing transgenic poultry, quality control of egg and poultry meat products, value addition, processing and preservation etc., of national and international importance and adopting the findings.

### **iii. Extending the activities of University Training Centres**

The University Training and Research Centres and Farmers Training Centres of Tamil Nadu Veterinary and Animal Sciences University are at present functioning in 22 districts of the State. The University officials co-ordinate with those of the other line departments like Department of Animal Husbandry, Agriculture, Milk Unions and Banks and take up field based research, organize on-campus

and off-campus training programmes and augment livestock production by promoting adoption of location specific technologies. The Government wishes to extend such activities of University centres to more districts of the State.

#### **iv. Introduction of new Undergraduate and Post-graduate Courses**

Taking into account the recent scientific advancement in the fast growing poultry sector, a new Undergraduate course, B.Tech. (Poultry Production Technology) was designed and started this year to produce quality graduates who would find immediate employment in poultry industry. The course will be offered in future through Institute of Poultry Production and Management approved for establishment at Hosur with the state-of-art facilities for poultry production and research. Further, Ph.D. course in Wildlife Science, M.Tech. in Food Processing Technology and Masters' programmes in Bio-statistics and Bio-Informatics are also started from the current academic year.

#### **v. Post-graduate Diploma Courses**

Tamil Nadu Veterinary and Animal Sciences University has also started a set of Post-Graduate

Diploma courses through distance education coupled with short-term hands on training to improve the technical skills of veterinarians working in the field. Such courses are the first of their kind to be offered in any Veterinary University in India. The newly started Post-Graduate diploma courses are in the field of:

- ❖ Small Animal Orthopaedics
- ❖ Veterinary Ophthalmology
- ❖ Small Animal Emergency and Critical Care Medicine
- ❖ Small Animal Dermatology
- ❖ Commercial Poultry Production Management
- ❖ Feed Manufacturing Technology
- ❖ Ethno Veterinary Practices

#### **vi. Short-term Skill Development Courses**

The fast growing dairy, poultry and other livestock industry sectors require more number of skilled manpower at low levels. Consequent to the demand from the industry and to facilitate employment opportunities for youths with different levels of school education, Tamil Nadu Veterinary and Animal Sciences University will be offering 18

different short term skill development courses of one to six months duration from this year onwards.

- ✎ Feed Analytical Technician
- ✎ Livestock Farm Manager
- ✎ Poultry Farm Manager
- ✎ Hatchery Supervisor
- ✎ Poultry Farm Supervisor
- ✎ Poultry Breeder Farm Supervisor
- ✎ Feed Mill Supervisor
- ✎ Dairy Plant Assistant
- ✎ Laboratory Assistant
- ✎ Fish Processing Assistant
- ✎ Dairy Farm Assistant
- ✎ Turkey Farm Assistant
- ✎ Shrimp farming Assistant
- ✎ Small Animal Attendant
- ✎ Surgery Theatre and Radiology Attendant
- ✎ Live Fish Feed Production Assistant
- ✎ Milk and Milk Products Quality Control Assistant
- ✎ Poultry vaccinator

The youths trained through the programme will find ready employment in livestock farms, dairies, poultry farms, feed manufacturing units etc.

### **vii. Hands on training on Livestock Farm Management**

The traditional farming methods need to be given a go-by and modern scientific management techniques adopted to improve production and productivity in livestock and poultry farms. To facilitate creation of self employment opportunities through livestock farming, the Tamil Nadu Veterinary and Animal Sciences University will offer 13 different short term hands on training courses on various types of livestock and poultry farming as follows:

- ✎ Rabbit farming
- ✎ Fodder and Fodder seed production
- ✎ Preparation of fermented dairy product
- ✎ Ornamental Fish Rearing and Breeding
- ✎ Japanese Quail farming
- ✎ Desi bird farming
- ✎ Sea weed production
- ✎ Fresh water fish farming

- ✎ Livestock farm waste utilization
- ✎ Emu farming
- ✎ Pig farming
- ✎ Sheep farming
- ✎ Goat farming

### **viii. Collaborative Education Programmes**

To improve quality of veterinary, fishery and food technology education programmes, Tamil Nadu Veterinary and Animal Sciences University will actively pursue collaborative education programmes with Universities and Institutes in other countries. Memoranda of Understanding have been signed this year with University of Cantabria, Spain, Guangdong University, China and Bogor University, Indonesia for the purpose.

### **ix. TANUVAS will undertake research work on the following thrust areas :**

- Development of live and inactivated vaccine for Classical Swine Fever
- Establishment of a Nano-technology Centre to study effective drug delivery, mineral supplementation to poultry, etc.

- Creation of Genome Resource Centre, the first of its kind in India for conservation of Animal Genetic Resources of the State
- Climate change on animal production and health and mitigation strategies
- Development of new recombinant and sub-unit vaccines against livestock and poultry diseases – DIVA approach
- Accreditation of laboratories for international standards
- Studies on stem cell therapy in regenerative medicine
- Establishment of Regional Centre for Fish Genomic Repository at Fisheries College and Research Institute campus

### **x. Regional Livestock Exhibitions**

To fast track the transfer of technologies identified by the University from lab to land, TANUVAS will henceforth be conducting “Regional Livestock Exhibitions” once in three months continuously in different regions of the State and show case the recent advances in livestock, poultry and fisheries production. The first exhibition in the series will be organized shortly at Srirangam in Trichy district.

### **xi. Veterinary Education in Tamil**

Most of the students admitted every year in Veterinary Colleges of the State hail from rural areas and they find it very difficult to pursue veterinary science course in English especially during first year. To help such students understand the subjects better, the entire course material for I Year B.V.Sc., in different subject areas have been translated into Tamil and brought out recently. This will pave the way for offering the entire undergraduate programme in Veterinary Science in Tamil.

### **31. BUDGET FOR 2011-12**

A sum of Rs.676.4996 crores has been provided in the Budget for 2011-12. Out of this, projected revenue expenditure is Rs.676.4981 crores, capital expenditure is 0.0014 crores (Rs.14,000) and loan amount is Rs.0.0001 crore (Rs.1000).

### **32. CONCLUSION**

The Government is committed to the upliftment of the economy of the rural poor and to augment the production of milk, egg and meat in the State. As a pioneering effort, this Government, under the dynamic leadership of the Chief Minister, have announced a lot of new and path-breaking

Schemes for the Animal Husbandry Sector, such as Free Distribution of Milch Cows, Goats/Sheep to the rural poor to improve their economy. This Government have also given utmost priority to the Fodder development Schemes so as to benefit the livestock in the rural areas. This will definitely improve the rural economy and also the productivity of the Animal Husbandry Sector. By giving its commitment to the augmentation of Extension Services across the State through setting up of new Rural Dispensaries, new Veterinary Colleges in Tirunelveli and Thanjavur Districts, new Poultry Research Centre in Hosur and creation of new posts of Veterinary Surgeons and other posts, the ambitious objectives of the Government can be fulfilled successfully.

Under the dynamic leadership of our Hon'ble Chief Minister, this Government will take all efforts and emerge successful in fulfilling the objectives of improving the economy of the rural people and all round productivity of the Animal Husbandry Sector in Tamil Nadu.

**N.R. SIVAPATHI,  
Minister for Animal Husbandry**