CHAPTER-3

Veterinary Higher Education System and Profile of Veterinary Colleges in South India
3.1 INTRODUCTION:

India has a distinguished livestock heritage and a place of pride in the history of livestock development in the world. It has shared its livestock resources with many countries all over the world, thus contributing immensely to livestock development on a global scale. It ranks first in cattle and buffalo population with 15% and 52% respectively and together making up 28% of the large ruminant population of the world. Likewise, India ranks first in goat population (19%) and fifth in sheep population (45%), the two together making up 26% of small ruminant population of the world. India has the largest number of breeds of cattle (26), buffaloes (7), goats (20), and sheep (40) in the world. Thus livestock wealth of India constitutes the richest livestock bank of the world. In India the zebu are much prized for their heat tolerance, disease resistance, and capacity to thrive under harsh environments. They have been exported to countries in Asia, Africa, the Americas, and Australia, where they have adapted well.

Animals are sources of food, fiber, power, manure, hides, skins, bones, and recreation. Besides being an integral part of agriculture and rural life, their contribution to the national income is invaluable. The contribution of animal husbandry is 26.4% and that of the latter is 36% of the gross national product. The annual growth rate of animal husbandry is 6.2% and that of agriculture is 3.42% thus the growth rate of livestock products in India has been comparable to that achieved by any other important sectors of economy. Today, the country ranks first in milk production in the world.
The present glory of animal husbandry has a long historical background. The history of animal husbandry is interwoven with the progress of agriculture and ultimately the progress of civilization. In developing crop husbandry, man learned to supplement his own capabilities with that of domestic animals. The importance of livestock was well known since time immemorial. In prehistoric and ancient India animal husbandry has been an integral part of agriculture. Written documents and old civilization manifestations suggest that animal husbandry in ancient and medieval India was of high order. Several references exist on importance of livestock and their rearing; e.g., Vedas, Upanishads, Ramayana, Mahabharata, Buddhist and Jain literature, Kautilya’s Artha-sastra, Puranas, Krishi-Parashara and Ain-i-Akbari. According to some scholars the Vedas are dated c. 8000-1000 BC, Puranas 200 BC-750 AD, and Artha-sastra 300 AD; Ramayana is considered at least 7000 years old, Mahabharatha 4000 years old, and Jain and Buddhist literature about 2300 years old.

Dog, a domestic pet, was the first animal to be domesticated in the Old Stone Age (10,000 BC) and other farm animals were domesticated in the New Stone Age (7500-6500 BC). Different animals have been domesticated in different periods in Europe, Central and West Asia, and India. It is considered that horse, cow, sheep and goat were domesticated first in Europe and Asia, pig in China, and poultry, elephant, and buffalo in India. The order of domestication was dog, goat, sheep, cow buffalo, pig, elephant, horse, camel, and ass. However, evidence from Mohenjo-daro excavation amply suggests that indigenous breeds of cattle had originated in India and not bought by
Aryans in India. The present-day cattle of Sind, Gujarat, and Rajputana are similar to those that existed in Mohenjo-daro. In fact, a school of thought is of the view that Aryans did not come from Central Asia but had their origin in the Himalayas from where they spread all over India.

3.2 ORIGIN AND GROWTH OF ANIMAL HUSBANDRY

3.2.1 Animal husbandry in Vedic literature

Vedic hymns were transmitted by oral recitals from teachers to disciples and from one generation to another until those took shape of published books. There are four Vedas: Rigveda, Yajurveda, Samaveda, and Atharvaveda. Rigveda is considered to be the oldest book. Many uses of animals and birds of the human society are mentioned in the Vedas. These include food items such as milk and milk products; medicines from milk, ghee (clarified butter), and urine of cows; wool; skin and hides; manure; and fuel and animal power in agriculture and transportation. The sound of animals and birds are indicators of future events such as rains, lightning, and earthquakes; presence of poisons in food; and location of lurking dangerous animals. Therefore, Vedas have directed to raise and protect animals. Yajurveda verse 3/43 has stated that cattle, goat, and sheep must be kept in large numbers.

Cow is referred as “aghnya” (Yaju 1/1) which means not to be killed but to be raised and protected. Likewise, Vedas have directed to protect other animals too (Yaj 6/11; 13147,48, 49, & 50; 16177; Rig 1/118). A lot of emphasis has been given to rearing and protecting cows as they produce milk and manure (dung and urine), and bullocks for draught power. Chapter 24 of
Yajurveda has described multifarious uses of 42 animals and 73 birds. There is description of characteristics and uses of 42 animals and 73 birds. The birds kapinjal for autumn, gorya for summer, titar for rains, batter for winter, and kakar for hemant have been mentioned as indicators of the beginning of these seasons (Yaj 24.20).

The Aryans, in the Vedic Age, knew the importance of pasture and forest (Rig 20.7 & 8). They used to graze their cattle by taking them to the grasslands in the morning and bring them back in the evening (Rig X: 10). This practice still survives in villages all over India. A number of hymns in Vedas are addressed to God for gifts of cattle and other animals (Rig X: 4.2. 10, 111:10.8, VIII: 6.4, 10). The vocabulary of Aryans is rich in names for every aspect of herds with special words for cows with strange calves; a cow barren after calving; and red, black, and light coloured cows; also herds were differentiated by distinct names. Cuts in the ears were made for identification. The cows were milked three times daily suggesting their high milk-yielding capacity. Castration was practiced and oxen were used for their normal purpose of farm transport. Cows which gave abundant milk and which could be milked easily are prayed for (Rig VII: 7, 10, 3). The quality of some cows which let down milk merely on the sight of their calves has been well observed and referred to (Rig IX:4, 2, 1).

Avi, the Sanskrit word for sheep, is used by transference for wool. Sheep wool was mainly used but there is evidence of use of goat’s wool (hair) from long-haired animals such as those from Kashmir. The wool when spun was
woven on a loom. The art of weaving as well known during the Vedic period. Wool fibre was used for making carpets and fabric garments. Stitched garments were in use. In Vedic literature the word “aghnya” has been repeated more than hundred times. Atharvaveda contains “Gosukta”; a chapter on cow. The glory of cows is also narrated in the Upanishads. Use of ploughs for cultivation by bullocks and chariots drawn by horses is mentioned in the Vedas. Thus it is clear that importance of animals was well established and animal husbandry was well developed during the Vedic period.

Valmiki’s Ramayana also contains references of uses of animals, specially cows and horses. Lord Rama donated thousands of cows to scholars (Valmiki Ramayana 1/1/94). Likewise, Mahabharata mentions in detail about grazing of cows by Krishna during his childhood. In fact, Lord Krishna is also known as “Gopal” and “Govind” as he used to live, graze, and tend cows “Gokul and “Brijbhumi” is well known for cows and pastureland or rangeland of Krishna’s time. Lord Krishna in Bhagwad Gita, while preaching to Arjuna stated that the cows are the most sacred, highest, and the best in the world, for without curd and ghee yajna can be performed in the world. He also said that cows help us by providing milk (also curd and ghee made from milk), hides, bones, hair, and horns. Thousands of herds of cows were there in Yudhisthira’s kingdom. Sahadeva being very good at management of cow was in charge of herds of cows maintained in the kingdom (Mahabharata, Virat 9/9-40).
3.2.2 Animal husbandry during 400-200 BC

The Buddhist text (Suttanipata) declares cattle to be givers of food, beauty, and happiness (annada, vannada, and sukhda) and pleads their protection. There used to be superintendents of cows who supervised herds of milch cattle, cow herdsman, buffalo herdsman, milkers, and churners. The superintendent ensured that calves were not starved but fed well. The herds included equal number of much cows, pregnant cows, aged cows, heifers, and calves. Crippled cows and cows difficult to milk were kept in special herds. The superintendent branded the cows to indicate that their calves were more than two months old. He registered them and also noted their natural marks, colour, and distance between horns. Thus herd registration and marking for identification was in practice. The cattle were allowed to graze in fields after harvesting of crops. However; during the cropping season they were sent under normal charge of a herdsman, hired by the village collectively to grazing land. The herdsman knew each animal under his charge by general appearance and marks upon it. He was experienced in removing eggs of flies from their hide, to heal sores, knew places of availability of food and water, and clever in choosing pastures.

Kautilya’s Artha-sastra also mentions importance of cows and states, “The killing of cows is a deadly sin.” The king will daily visit the cows, observe them, and salute both cows with her calf and bull by circling round them, before going to the court. In the Mauryan age, buffaloes were also recognized as dairy animals. The rations for buffaloes were prescribed. It is
stated that buffalo milk is richer in butter fat than cow’s milk, the fact established very well today. Kautilya clearly mentions for providing breeding bulls in herds of cows. Further, it was enjoined upon kings that ample provision should be made for pasture by setting apart suitable land to sufficient extent while forming villages. The “Gopas” or the village accountant was to note the boundaries of such pastures, number, and register them. Herds were moved from one pasture to another according to season and growth of grasses. The Artha-sastra defines the duties of graziers. It mentions that cows should be guarded behind walled enclosures. Graziers had to attach bells to the necks of their cattle so as to scare away wild animals and snakes and to know the location of the herd by the ringing of bells on their movements. Branding animals was in vogue.

Artha-sastra also describes about feeding. The grass (yavasa) and dry straw (trifle) were to be given as feed and feeding of oil cake is a definite recommendation in Artha-sastra. Detailed rations have been prescribed for cows, buffaloes, mules, camels, and horses. The quantity of food to be given was in proportion to quantity of milk yield by cows or duration of work in bullocks.

The graziers were directed to milk their animals twice daily, specially during rainy season, autumn, and part of winter and only once a day, i.e., morning, during summer (due to low availability of grass during hot months). It was clear that buffalo milk is richer in milk fat than cow’s milk. In the Mauyan period, asses were used as beasts of burden and horses for riding and
for war. Horse chariots and carriages were used. Royal horses were under the superintendent of horses, who registered breed, age, colour, and place of origin. Artha-sastra states that the breeds of Kambhoja, Sindhu, Aratta, and Vanaya countries were best. Steeds, stallions, and colts were kept separately in stables. Dimensions of door and their directions for horse stables are mentioned. Regular horse training for warfare (circular movement, slow movement, jumping, galloping, and several forms of riding) have been discussed. Sindh breed of white horses were considered fast and best. Use of elephants in Mahabharata war has been mentioned. However, Magadha was the first state in India which used elephants on a large scale in warfare, for traversing jungles and marshy areas. Nanda maintained 6000 elephants and Chandragupta Mauriya 9000 elephants.

During the reign of Ashoka, veterinary hospitals were state institutions and functioned all over the empire. Herbs and medicinal plants used for healing ailments of beasts were grown and those lacking at a particular place were imported and planted. Thus, there was a provision for care and treatment of cattle, horses, and elephants.

Krishi-Parashara (c 400 BC) deals with the knowledge and practices relating to agriculture at that time. Soil classification, land use, manuring, crop rotation, irrigation, tillage, implements, crop protection, meteorology, and care of cattle and draft animals are mentioned. Cows were considered as an important source of food and farm power. Verses 84-111 emphasize the need for good management of cattle. Cattle sanitation, health, and nutrition are
stressed in verses 84-98. A cattle festival stating the importance of cows and bullocks is described in verses 99-104. The procedure for preparation of cow dung manure has been described in verses 109-111. It is stated that crops grown without manure will not give yield. Feeding of cattle has also been stated in verse 86. Cattle feed was simple and consisted of wheat, barley, other grains, and sugarcane tops besides grazing. Housing of cattle has also been mentioned in verse 89 and five steps length is recommended. The width should be equal to the animal’s width with some space for movement, which can be assumed to be approximately 4.75 m. Verse 90 mentions that water kept in a bronze pot. Hot scum of boiled rice, water used for washing fish and ginned cotton are harmful for cattle, in verse 91 it has been stated that leftover food and tying goats in a cowshed are harmful to cattle.

Verse 96 describes farmers keeping 4 pairs of bullocks for ploughing. A good farmer can prepare his land using more than a pair of bullocks well in time for sowing. At the same time bullocks can get adequate rest if used alternately. A cattle festival was celebrated every year on the next day after Deepavali (festival) (verses 99-104). The animal’s body was cleaned by bathing, smeared with turmeric powder, and horns were decorated with creepers. The cow and bullock worship is still carried out in rural parts of India in a festive way as described in Krishi-Parashara though the days of worship may be different in different parts of India. Branding of animals was also done and cattle owners take their bullocks in a procession around their village.
Like Krishi-Parashsara, a “Gocharitra” script written in 1852 AD and considered to be of similar period as Krishi-Parashara describes the importance of cattle, their selection, and treatment. It has been suggested to select a white cow having a large body, simple small horns, circular hooves, broad mouth, and long tail, because such a cow will yield two times more milk. Preference was also given to such cows of various other colours such as grey, almond, and red with patches on face, smooth skin, fine hair coat, large body size, large abdomen, and long neck and tail for selection (Goch 1-8).

Characteristics of good bullocks have also been narrated. A bullock having abdomen like a leather water bag, straight forehead, high shoulders as strong as that of a lion, eyes like deer, and long ears is good and wealth giving. Further it has been warned not to buy such animals which have one e blue and the other black and white, small flattened ribs on one side and raised on the other side, and back like a snake having depression or that is raised high (Goch 34-36). A number of verses prescribe treatments for various types of animal diseases. For instance, bronchitis can be treated by using of *ajwain, piparmoor, baboor* leaves, and common salt, all taken in equal amounts, mixed in oil and drenched for 3 days. For tympanitis, 225 g *hing* (asafoetida), 150 g *souchar* 450 g *gur* (jaggery), and 225 g baked barley are powdered and given for 3 days. Likewise, medicines have been prescribed for black quarter, depilated animals, dysentery, colitis, fracture, internal parasites, increased body weight, and blood in urine in some of the other verses of “Gocharitra”. 
3.2.3 Animal husbandry in medieval India

Abdur Razzak, a foreign visitor in South India, observed that Devendra II of Vijayanagar Empire had many elephants. The king also had a white elephant. He described in detail the procedure for catching, taming, feeding, and breeding of elephants. Cows and oxen were not slaughtered in that empire but were worshipped on certain occasions. Mention has been made of Hallikar cattle breed which was poor in milk production but one of the best draught type cattle that was available in South India. Bullocks were strong and quick, covering 30-40 miles a day on rough road. In the field, the animal was fast and yet a steady worker, being useful for all types of cultivation. Males were castrated when broken to yoke, i.e., around 3 years. Giving a historical record, Kristnasamienger and Pease mentioned that the Hallikar cattle breed was taken to Mysore between 1500 and 1600 AD. It was bred and developed to Amritmahal breed.

Jahangir also made observation on animals. He mentions that a buck weighed 2 maunds and 24 seers (about 90 kg) and rams weighed 2 maund and 3 seers (75 kg). Ain-i-Akbari, an important source book for animal husbandry in the 16th century, provides information on breeding and feeding of elephants, horses, mules, camels, and cows. The chapter on elephant describes different kinds of elephants, places where wild elephants are found, and procedure for capturing, taming, feeding, and breeding.

Akbar had 12000 horses in his stables. He collected horses from Iraq, Iran, Turkey, Arabia, Central Asia, and Tibet. Much attention was given to
breeding of horses in Mughal India for which skilful and experienced men were kept. India ranked higher than Arabia in this regard writes Abul Fazl, Kachhi horses being equal to Arabian horses. Goat breeds of Bengal and Cooch Bihar are also mentioned. Feed and fodder for horses were described; e.g., in winter boiled grains or vetch and in summer 2 seers (about 2 kg) flout 1½ seers jaggery, and fresh grass or hay feeding is suggested. It has been mentioned to keep 3 bighas land for grass.

Mules were also used for transportation and riding. The life span of mule was stated to be 50 years. The Pakhali region of Attock and Kashmir was a breeding tract for mules. Abul Fazl further mentions that mules never forget the road once travelled. Their strength is comparable with that of horse and patience with that of ass. Mainly mules were used as beasts of burden over uneven ground. They were fed grain, grass, and some salt. Asses were used for carrying load and fetching water. Camel was the beast of burden used in the arm. It was bred in Rajasthan, Haryana, Sindh, and Kacch (Gujarat). The life span of camel has been mentioned as 24 years. Specifications for feeding according to age of camel has been suggested. Abul Fazal states that cattle were considered as sacred and auspicious animals as they sustained human life due to their use in cultivation and transport and by providing food (milk and its products).

Cattle of Gujarat were stated to be the best. Bullocks travelled 80 miles a day and some even surpassed horses. The life span of cow was stated to be 25 years. Various classes of cows have been mentioned, e.g. ‘Khas’ class and first
class. Khas class were fed 6¼ seers grain and 1½ dams grass whereas the other
category was fed 3 seers grain and 1 dam grass. Molasses was also used for
feeding. Female buffaloes were fed 8 veers wheat flour, ½ seer molasses, 1½
seer’s grain, and 2 dams grass. Milk yield of cows varied and was 1-15 seers
day\(^1\) and that of buffalo was 2-30 seers day\(^1\). Buffaloes of Punjab were best.
One man was kept for looking after 4 adult cattle with their followers.

Description of goat is also given in Ain-i-Akbari. Goats were kept all
over India. Large flocks were owned by nomadic goat herds in arid areas and
considerable number by landless family for milk supply. Goats kidded twice in
rural areas where they were raised for milk, meat, and skin. Some of the breeds
such as the white-haired Himalayan (Kashmiri) goats, short-haired small
Barbary goats, short-legged Surti goats, and Bengal goats are mentioned A
large part of the country had grasslands and rearing sheep was the occupation
of people in the Himalayas, Central India, Rajasthan, Gujarat, and Punjab.
Breeds of sheep are also mentioned; e.g., long-eared Lohi, brown-faced
Bikaneri, and black-faced Marwari. Akbar promoted wool industry, shawls
and carpet manufacturing was common.

Thus, it can be observed that importance of animals was very well
known in ancient and medieval India. The husbandry of animals was well
established. Norms of feeding, breeding, housing, and health care were also
very well established and practiced. The present-day animal husbandry
developed is an outcome of the gradual enhancement in knowledge in this field
for thousands of years.
3.3 ANIMAL SCIENCE EDUCATION IN INDIA

History of animal science education in India begins with the domestication of animals. Though animal science education in the broad sense includes education in veterinary science, or animal husbandry, dairying and fisheries, very little information is available on the ancient history of education, in dairy and fisheries science. Domestication of animals is said to have been started in India during the Neolithic or new Stone Age evidenced from the paintings in the potteries and the bones of the animals discovered during excavations in the sites of early civilization. The goat was the first ruminant to be domesticated and the horse the last, as late in 2000 BC in countries near Middle-East. In India there is no reference about horses until the invasion of Aryans (2000 BC). The first documentary evidence on existence of veterinary science is available in *Atyharva veda* (1500-500 BC) in which there are references to dairy fanning.

It is believed that in the post-Vedic period, a number of teachers have contributed to the literature in veterinary science in ancient India. Prominent of them were Salihotra, Palakapya, Rajaputra or Budha, Wasa, Nakula, and Mann. Sahadeva, Garga, Brihaspati, Narada, and Jadatta. Salihotra is called the father of veterinary science. The book authored by him has been quoted by *Agni Purana, Maisya Purana* and *Garuda Purana* (300 BC to 700 AD). Salihotra’s work on horses appears to be a comprehensive one, dealing with training, breeding, feeding, watering, stabling and grooming, and their care in health and disease. Reference on animal husbandry is available also in Kautilya’s
Arthasastra, Brhat Samhita of Varahamitra, Agnipura, Visnudharmottara Mahapurana, Asvavaidyaka, Asva Chikitsa, Matanga Chikitsa etc.

Palakapya, next to Salihotra in importance was an authority on elephantology. Next reported book on elephantology is by Rajaputra (Lord Budha). Nakula and Sahadeva are the two of the Pandavas, the former contributed a book on training and management of horses, and the latter on management of cattle.

During the Mauryan age (322 to 232 BC), it is said that there were superintendents of cows responsible to supervise herds of milch cows, calves, work of herdsmen, milkers, churners, hunters and also to look after stored milk and ghee. Cows and their calves were usually branded. Buffaloes were also classified by the superintendent before forming them into herds. This indicates that buffaloes were recognized as dairy animals at that time. During the reign of King Ashoka, veterinary hospitals were state institutions. In this period, though there is evidence of state-run veterinary hospital. There is no mention on the mode of training of the veterinarians. However, it can be presumed that earlier veterinary education was imparted by the sages to their disciples.

3.3.1 Pre-Independence period

Veterinary science does not seem to have received much attention till the end of 18th century, when the East India Company recognized the need to improve the quality of horses and bullocks for its military power. To meet their military needs, some horse-breeding farms were started in 1774 in the any establishments. These stud farms were looked after by men from England.
Indian veterinarian was available till 1783 when the army authorities became extremely worried about the rapid prevalence of equine diseases. Though the services of a few specialists were made available to the army by 1799, no information is available about their professional background. William Moorcrarft, however, has been a distinguished figure in this regard who after his medical career had received training at the Veterinary School at Lyons (France). He became the superintendent of the stud farm in Bengal. Under his guidance several contagious diseases were controlled. But the attention was given mostly to the study of tropical diseases affecting the army horses. No effort seems to have been made for a comprehensive study to deal with the problem. The first training course in veterinary science was organized in 1821 by Dr J.T. Hodgson, who was the Veterinary Surgeon to the Governor-General’s Bodyguard in Calcutta, to train persons to be employed as sub-assistant veterinary surgeons with corps of Indian cavalry.

These activities lead to the establishment of an army veterinary department in India in 1827. A beginning in formal education in veterinary science was made in the country in 1862, when a veterinary school was opened in Poona (Pune) mainly to train persons for the army veterinary department. Soon it was realized that attention should be paid to cattle population also since the diseases of cattle were spreading fast. This resulted in the appointment of Cattle Plague Commission in 1869. Some more veterinary schools came up subsequently, viz., at Hapur in 1879, Ajmer in 1881 and Simla in 1888. The school in Simla existed only for a short time In 1882, the school at Hapur was
closed and students were shifted to Lahore. The ‘Veterinary school at Ajmer was also merged with the school at Lahore to form the Lahore Veterinary College in 1902. Another veterinary school was set up in Bombay in 1886. Following frequent recurrence of famine and outbreaks of diseases, several commissions were set up towards the end of the 19th Century to go into the question of cattle plague, and preservation and maintenance of health of bullocks. Recommendations of these commissions lead to the establishment of the Central Bacteriological Laboratory at Poona in 1890 and the civil veterinary departments in 1891 (Report of National Commission on Agriculture 1976). The Central Bacteriological Laboratory was shifted to Mukteswar and renamed as Imperial Bacteriological Laboratory which was renamed as Imperial Institute of Veterinary Research, the present Indian Veterinary Research Institute.

With the expansion of the civil veterinary departments, necessity for more veterinary colleges arose. The Bengal Veterinary College was opened in 1892 and the Madras Veterinary College in 1902. A fourth institution was opened in Patna in 1930. Primary objective of the education programme was to create a cadre of veterinarians to look after the health problems of domestic animals, and to manage the dairy herds maintained by the military and the Government farms. A meeting of the Principals of the veterinary colleges held in 1900 at Ambala, developed a curriculum of 3-year duration. This curriculum was followed by all the colleges at Lahore, Bombay, Calcutta and Madras. This curriculum remained in force till 1912 when the post of the Inspector General.
Civil Veterinary Department, who was acting as a coordinator was abolished and the Presidency of each province got the freedom to conduct the examinations. The Madras Veterinary College revised the curriculum during 1930-31. It was affiliated to the Madras University in 1936, offering B.V. Sc. degree of 4-year duration, after intermediate. The diploma course of 3-year duration was extended to 4 years laying more emphasis on animal husbandry subjects. Simultaneously the duration of the degree course was extended to 5 years, both being run concurrently. In 1946-47, the duration of degree course was curtailed to 3 years for the sake uniformity on the advice of the ICAR and the diploma course was discontinued. The Punjab Veterinary College, Lahore, got affiliated with the Punjab University in 1942 and B.V.Sc. degree was initiated. Two more colleges were started during pre Independence period. One at Hyderabad in 1946 and the other at Mathura in 1947.

Post-graduate training has been imparted to the field veterinarians since 1900 at the Imperial Institute of Veterinary Research. These training programmes were replaced by refresher courses in 1922.

Since 1942 in addition to these regular courses students have been admitted to associate ship of IVRI, a diploma course of 2-year duration. It consisted of research and training which was recognized as equivalent to post-graduate qualification for various jobs under central and state governments. Facilities for research and training at this Institute were so immense that it has been recognized as a centre for post-graduate research and study leading to M.Sc., and Ph.D. in Animal Sciences since 1937. The Madras Veterinary
College was also recognized as an institution for post-graduate studies leading to M.Sc. and Ph.D. by the Madras University in 1936.

3.3.2 Post-Independence period

When the country attained Independence in 1947 there were 6 colleges with an intake capacity of about 300 students. As a result of partition of the country, the Lahore Veterinary College was transferred to Pakistan and in order to accommodate the displaced studies, the Punjab government started the Hisar Veterinary College in 1948. The need to bring out rapid increase in food production was the immediate and serious problem faced by the government in the years following Independence. It was realized that increased production could be achieved only through application of scientific technologies for which more trained personals are the vital requirement. Accordingly emergency steps were taken for increasing the output of graduates by increasing the admission capacity through establishing new colleges, introducing double shift and also by instituting an emergency diploma programme of 2-year duration. More colleges were established at Assam and Jabalpur (1948), Bikaner (1954), Trichur, Tirupathi, Mhow and Bhubaneswar (1955). With these efforts, the admission capacity rose to 1,300. in addition, an emergency diploma programme was started at Hisar, Uttar Pradesh, Bihar, West Bengal, Rajasthan, Madhya Pradesh and Andhra Pradesh. The training programme was based on a model syllabus developed by the Indian Council of Agricultural Education (ICAE) under the ICAR which was somewhere between those of stockman training course and regular degree programme giving emphasis to De practical
training rather theory. It was expected that these trained personnel’s will be able to serve in the newly formed NES Blocks as middle-level workers of animal husbandry, to undertake first-aid treatment of sick animals, undertake artificial insemination work and other works related to animal husbandry. Though originally it was planned to train 2,000 students under this programme, actual training was given to about 1,700 persons only. Soon it was realized that it would not be desirable to let these trainees remain half-backed any longer than absolutely necessary. This move was faced with some problems due to lack of minimum required qualification for admission to degree programme for some of the candidates. Finally, through the intervention of the ICAR, most of these candidates were re-admitted to colleges and condensed courses were conducted for completing their degree requirements.

3.4 VETERINARY COUNCIL OF INDIA: A MONITORING AGENCY

The Veterinary Council of India (VCI) was constituted by the Government of India on the same line as other professional Councils with a view to coordinate and maintain the standard of veterinary education in the country by the Parliament Act 1984. Since its inception, the VCI has been taking active steps in revising the curriculum in collaboration with the ICAR and its adoption by the Universities.

The objectives of Veterinary Council of India is

- To prepare and maintain the Indian Veterinary Practitioners' Register containing the names of all persons who possess the recognized veterinary
qualifications and who are for the time being enrolled on a State Veterinary Register of the State to which Indian Veterinary Council Act extends.

- To lay down minimum standards of veterinary education required for granting recognized veterinary qualifications by veterinary institutions.

- To recommend recognition or withdrawal of recognition of veterinary qualifications granted by veterinary institutions in India.

- To lay down the standards of professional conduct, etiquette and code of ethics to be observed by veterinary practitioners

- To negotiate with institutions located in other countries imparting training in veterinary education for recognition of their qualifications on reciprocal basis.

- To regulate veterinary practice in the country.

- To advise the Central and the State Governments on all regulatory matters concerning veterinary practice and education.

- To frame regulations and implement the provisions of the Act, and Rules and Regulations framed there under.

Today there is forty three veterinary colleges under different universities spread all over India and are under the control of Veterinary Council of India act which was formed during year 1989 with the concept of uniform syllabus with minimum standards in all the states. They are conceived to act as leaders in veterinary education to train the manpower and promote the veterinary education in the country. However, with the advancement of veterinary science and establishment of Veterinary Council of India, it was strongly felt to give
autonomous status to this science through establishment of separate Veterinary and Animal Science University. Thus, at present there are one university under the ICAR system i.e. IVRI, Izatnagar while at state level there are six full fledged Veterinary and Animal science Universities namely, Tamil Nadu Veterinary and Animal Science University, Chennai established in the year 1989, West Bengal University of Animal and Fisheries Sciences, Kolkatta established in 1995, Maharashtra State Veterinary University established in the year 2000 at Nagpur, Karnataka Veterinary, Animal and Fisheries Sciences University, Bidar established in the year 2005, Sri Venkateshwara University of Veterinary & Animal Sciences at Tirupati in 2006 and very recently Guru Angad Dev Veterinary, Animal & Fisheries Sciences University in 2007 at Ludhiana. It is expected that such independent veterinary universities will also come up in every state to promote veterinary and animal sciences (http://www.vci.nic.in).

The VCI regulations has also prescribed the minimum standard requirements of accommodation of common facilities, such as, college building/ class rooms, library, hospital complex, livestock and fodder farms, play grounds, hostels etc and the accommodation, including the equipments and other fixtures that are essential.

3.5 PROFILE OF VETERINARY COLLEGES IN SOUTH INDIA

Tamil Nadu Veterinary and Animal Sciences University

The seed for the establishment and growth of Tamil Nadu Veterinary and Animal Sciences University (TANUVAS) was sown as early as 1876,
when the Madras Veterinary College was started as an Agricultural School in Chennai to offer diploma and certificate course in the field of veterinary and animal sciences. The institute attained the status of a college in the year 1903 (01.10.1903), when it started functioning at Dobbin Hall, Chennai and admitted 20 students for a three-year diploma course called Graduate of Madras Veterinary College. In 1969, the college was made as the Directorate of Veterinary Education and Research. The college was then academically affiliated to Tamilnadu Agricultural University (TNAU) in 1974 and became a constituent unit of TNAU in 1976. Realizing the importance of education research in animal and fisheries sciences so as to increase its productivity towards better income generation for the resource poor farmers, the government of Tamilnadu established the first veterinary and animal sciences university in Asia on 20th September 1989 with its head quarters at Chennai with the name Tamilnadu Veterinary and Animal Sciences University.

The Tamil Nadu Veterinary and Animal Sciences University has been conferred with the prestigious "Sardar Patel Outstanding ICAR Institution Award-2011", recognizing its meritorious performance in education, research and extension in the country in the field of agricultural sciences including veterinary, animal and fisheries sciences at the 84th Foundation Day of the ICAR and ICAR Award Ceremony held at New Delhi on 16.07.2012 among 63 agricultural and veterinary universities. TANUVAS is the first veterinary university in the country to bag this coveted award.
3.5.1 MADRAS VETERINARY COLLEGE

The Madras Veterinary College (MVC), the first of the four constituent veterinary colleges of TANUVAS, was started as an equine treatment school with five students in a temporary structure at Saidapet, Chennai in 1903. It is one of the oldest veterinary schools in the country. Since inception, the college started growing in stature and is now recognized as a premier veterinary institute in the country and world over. The college is located at Vepery near Chennai Central in nearly 6 hrc. Of land. The main administrative block is a heritage building built on the Indo-Saracenic architecture that currently houses the Dean's office and the education cell. Besides, there are nine blocks of buildings, housing various departments with excellent facilities for education, research and extension.

The Madras Veterinary College Library was established in 1903 along with the Madras Veterinary College. The MVC library had a humble beginning and over these 109 years its growth has been phenomenal and transformed from “book-only” library to a modern “digital library” with invaluable collection of e-resources to cater to the increasing information requirements of the stakeholders.

At present, the library is functioning in a total floor space of about 12,000 sq. ft. in the 2nd and 3rd floors of the Student Day Care Centre Building of MVC. The Book Section and Book Bank are functioning in the 2nd floor. The Journal-cum-Back volume Section, Digitization Unit, Microfilming Unit and Reprography unit are functioning in the 3rd floor. In addition, an Archive
with a total floor space of 2400 sq. ft. has been established in the 1st floor of
the Dairy Science Block which houses very old books, back volumes of
journals, Master’s and Doctoral theses and other old documents.

The library has an institutional membership base of about 1000 (600 UG
students, 200 PG students and 200 staff). The University Officers, Professors
and Associate Professors can borrow 12 books; Assistant Professors and PG
students can borrow six books and non-teaching staff can borrow one book at a
time for a period of 30 days from the library. The UG students are eligible to
borrow three books at a time for a period of 10 days Apart from the
institutional members, non-institutional people (scientific workers and other
private persons such as Veterinarians) can also become the members of the
library by paying a caution deposit (to be decided by the University from time
to time) and they are eligible for two books at a time for a period of 30 days.

The library has a collection of about 40,000 books. Of these, more than
20,000 books are kept as reference books. The collection includes textbooks,
reference books, manuals, monographs, dictionaries, encyclopedias and colour
atlases. Around 500 to 600 basic to advanced books are added every year for
the users of the library. Collection of about 250 e-books at present and all these
e-books are accessible via the e-book gateway of OPAC which is available
through the Intranet connecting all the three teaching campuses and the
University headquarters. The e-Book gateway also provides web links to major
e-book gateways which are providing access to thousands of full-text e-books
covering various disciplines including veterinary and animal sciences. The
The MVC library subscribes about 100 foreign journals and 65 Indian journals. In addition to its own collections, the MVC library has access to Consortium for e-Resources in Agriculture (CeRA), an online journal consortium funded under NAIP of ICAR. CeRA provides access to about 2,800+ online journals covering various disciplines of agricultural sciences including veterinary and animal sciences.

The various Library Services rendered to the users are:

- Document lending
- Reference
- Education (Offers Compulsory Non-Credit Course PGS 601: Library and Information Services to all PG research scholars)
- Current Awareness Service
- Selective Dissemination of Information
- Online Public Access Catalogue (OPAC)
• Reprography
  • Photocopying
  • Printing
  • Microfilming
  • Scanning

• Resource sharing through:
  • Consortium of e-Resources in Agriculture (CeRA)
  • Madras Library Network (MALIBNET)
  • British Council Library

• Information download from Online sources for the benefit of Library users

• Online Document Delivery Service (DDS)

• SC/ST Book Bank

• Organization of regular Information Literacy Programmes

• Archiving

• Binding of Documents

• Preparation and supply of Identity cards to the library users, staff and pensioners

Circulation activities of the library had been automated using "Library Management Software" developed for this library which was replaced by the "Software for University Libraries" (SOUL 1.0) developed by UGC. Now, SOUL is replaced by KOHA Integrated Library Management System. Necessary equipment for automation of the library viz., computers, printer,
scanner, barcode label printer, barcode readers etc., had been procured under NATP / NAIP funds. The resources of the library in terms of books, back volumes of the journals, M.V.Sc. and Ph.D. theses of MVC, VC&RI and FC&RI, CD-ROMs, VCDs/DVDs and other reports have been catalogued and the web-based Online Public Access Catalogue (OPAC) of the library is available at http://14.139.186.158. At present, 25 computer terminals have been provided for the library users for OPAC. The Library has started digitizing the theses and dissertations and currently abstracts of over 2,600 theses had been digitized and full-text of theses and dissertations submitted after 2000 are available in digital format. Valuable old documents available in the library are identified under e-Granth project of ICAR for digitization and digitization of about 3,00,000 pages of documents are in the pipeline.

**E-Journals Consortium:**
3.5.2. VETERINARY COLLEGE AND RESEARCH INSTITUTE, NAMAKKAL

In order to augment the human resources and for the betterment of poultry farmers, a second veterinary college at Namakkal was started on 14.06.1985 as a constituent college of Tamil Nadu Agricultural University, Coimbatore. It later became a constituent unit of India's first veterinary varsity, the Tamil Nadu Veterinary and Animal Sciences University on 20.09.1989. On 10.05.1990, the college moved to its own premises, an extensive and scenic campus of 500.18 acres at Ladduvadi village, seven k.m. south to Namakkal town on the way to Mohanur with one Academic block and multipurpose building. Now, the college campus is having three academic blocks, one clinical block, meat science and quality control laboratory, one administrative block, library with computer centre, physical education complex, staff and students cafeteria, students co-operative stores, staff quarters, vehicle shed, livestock and poultry farm complex, Animal Feed Analysis and Quality Assurance Laboratory (AFAQAL) and hostel buildings.

Veterinary College and Research Institute, Namakkal has been accredited by the ICAR, New Delhi in the year 2001. The "Udyog Excellence Award" to the institution was awarded for the outstanding achievement through economic and social development, by the International Institute of Education and Management, New Delhi. ICAR and TANUVAS best teachers' awards were awarded for the staff members of this institute. ISO 9001: 2000 certification was awarded to this institute from the year 2004-2006.
The Veterinary College and Research Institute Library plays a vital role in the collection, development and dissemination of Veterinary Science information to meet the present and future needs of the Institute. The Library has been computerized by using SOUL. Software (Software for University Libraries) developed by INFLIBNET Centre, Gujarat and also provides OPAC facilities to the users in the institute. The library has a rich collection of books and journals in the field of Veterinary Science. The Library is functioning in a separate two-storied building from 24.01.1995. The total area of Library is 10,830 sq.ft.

Administrative Section, Book bank, Book Section, Reference Section, Circulation Section, Computer section and reading hall are functioning in the ground floor. Journal cum back volume Section, Reprography Unit, Archival Library Section and Video Library are functioning in the first floor. The library has 8840 books and subscribes to 20 foreign and 61 Indian journals every year. The old journals are hardbound and kept as Back Volumes for reference. So far, the Library has built up over 2570 back volumes of journals. The Library has 97 CD-ROMs for the users to retrieve necessary scientific data.

The circulation activities of the Library automated using “Software for Universities Libraries” (SOUL) developed by UGC – INFLIBNET, GUJARAT is now being used. Necessary equipments for automation of the Library viz., computers, barcode scanner and barcode label printer have been procured under ICAR Development Grant 2007-08. The resources of the library in terms of books, back volumes of the journals, M.V.S.C and Ph.D theses and other
reports through web based Online Public access Catalogue (OPAC) of the Library is under process for online access.

A surveillance system with CCTV network had been installed at the Library to enhance and tighten the security system. In this network, 16 Nos. of cameras were installed at appropriate places of Library for recording the movements which will occur during working hours of the Library on all working days. The backup facility of Digital Video Recorder (DVR) has more than 60 days. The recording of 16 Nos. of cameras are being displayed on the screen of Desktop computer at a time with 16 slots which is placed at the counter section to monitor the movements of users and the same is being recorded in DVR also.
The services provided by the Library include:

- Books Lending
- Reference
- Reprography
- Video Library
- SC/ST Book Bank
- Current Awareness Services
- Selective Dissemination of information
- Internet
- CD Writing (Articles and information download)
- Archives
- Placement cell
- New arrivals display
- User guidance service

Kerala Veterinary and Animal Sciences University

The newly formed Kerala Veterinary and Animal Sciences University (KVASU) are located in the scenic hilly terrain of Pookot in Wayanad district, Kerala, India. KVASU has three constituent colleges which include: College of Veterinary and Animal Sciences, Mannuthy, Thrissur, College of Veterinary and Animal Sciences, Pookot, Wayanad and College of Dairy Science and Technology, Mannuthy. Moreover the university has research stations at Thumbermuzhi, Thiruvazhamkunnu and Mannuthy. Since this is a newly established university, improvement of infrastructure facilities is of paramount importance. Infrastructure facilities in the areas of education, research, extension, capacity building, IT connectivity, distance learning, Clinical services, diagnostic facilities, zoo noses, animal nutrition, biotechnology, ethno-veterinary medicine, path biology, dairy technology and in other related sectors are most essential and are directly linked to rural development.
3.5.3 College of Veterinary and Animal Sciences, Mannuthy

College of Veterinary and Animal Sciences, Mannuthy was established in 1955 and is one of the constituent colleges of the newly established Kerala Veterinary and Animal Sciences University. The College has made extensive contribution for the development of animal husbandry sector of the state. In addition to development of human resources for serving the livestock farmers of the state, the college is also instrumental in various research, extension, consultancy and clinical services besides acting as a source of high quality germplasm and animal products to the farmers and general public respectively.

The livestock sector confers an immense contribution to the rural livelihood and food security of the masses. It provides employment to millions of livestock farmers while acting as a supplementary source of income to many agricultural farmers. It is also disproportionately benefits women being the primary animal husbandry activists in rural areas, and therefore, this sector serves a great contribution to economic and social wellbeing of women. Women involvement is more than 80% in this sector. Further, the sector provides valuable nutritional sources to the growing children and working population in the form of milk, meat and eggs.

The College of Veterinary & Animal Sciences, Pookot, was formally inaugurated on 11 December 2004. The campus is sprawled over 100 acres in the scenic hilly terrain of Wayanad in Kerala, India. The College offers Under Graduate (BVSc & AH), Post Graduate (MVSc) and Doctoral (PhD) Programmes in Veterinary & Animal Sciences. The resources at COVAS
Pookat include: Laboratories, Library, Clinical training, Farm training, Ambulatory clinic, Work experience/ entrepreneurship, Student projects, Topic presentations & discussions and Study tours. However, the vegetation is plenty and climate is hospitable showing little differences between summer and winter seasons, thus is very congenial for livestock and poultry farming. High population density and increased land pressure are the major issues affecting agricultural sector in the state.

The existing library of the faculty of Veterinary and Animal Science is a part of the faculty building. The library was established in 1959. The library being the heart of the University provides cutting-edge facilities and services to support research, teaching, learning, and scholarly communication across disciplines. It has good accommodation and excellent infrastructural facilities. It provides access to various national, international journals and periodicals in addition to an excellent collection of textbooks and reference books. There is also a separate collection of the thesis and dissertations, besides bound volumes of old journals. Facilities are also provided to students and faculty for access to internet and online journals.

**Library Services:**

- Circulation Services
- Current Awareness Services
- Earn with you learn program
- E- Book Services
- E-Journals Services
- Inter Library Loan Services
- Photocopying Services
- Newspaper clipping Services
- Reference Services
- Library Orientation Programs
- Internet Services

**Library Collection:**

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<th>Library Material</th>
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<tr>
<td>Back Volumes</td>
<td>6000</td>
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<tr>
<td>E-Books</td>
<td>632</td>
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<tr>
<td>E-Journals</td>
<td>25</td>
</tr>
<tr>
<td>Library staff</td>
<td>13</td>
</tr>
</tbody>
</table>

**3.5.4 College of Veterinary & Animal Sciences, Pookot**

The College of Veterinary & Animal Sciences, Pookot, was formally inaugurated on 11 December 2004. The campus is sprawled over 100 acres in the scenic hilly terrain of Wayanad in Kerala, India. The College offers Under Graduate (BVSc & AH), Post Graduate (MVSc) and Doctoral (PhD) Programmes in Veterinary & Animal Sciences. The resources at COVAS Pookat include: Laboratories, Library, Clinical training, Farm training, Ambulatory clinic, Work experience/entrepreneurship, Student projects, Topic presentations & discussions and Study tours.
The College of Veterinary & Animal Sciences, Pookot, was formally inaugurated on 11 December 2004. The campus is sprawled over 100 acres in the scenic hilly terrain of Wayanad in Kerala, India. The College offers Under Graduate (BVSc & AH), Post Graduate (MVSc) and Doctoral (PhD) Programmes in Veterinary & Animal Sciences. The resources at COVAS Pookat include: Laboratories, Library, Clinical training, Farm training, Ambulatory clinic, Work experience/ entrepreneurship, Student projects, Topic presentations & discussions and Study tours.

The existing library of the faculty of Veterinary and Animal Science is a part of the faculty building. The library was established in 1959. The library being the heart of the University provides cutting-edge facilities and services to support research, teaching, learning, and scholarly communication across disciplines. It has good accommodation and excellent infrastructural facilities. It provides access to various national, international journals and periodicals in addition to an excellent collection of textbooks and reference books. There is also a separate collection of the thesis and dissertations, besides bound volumes of old journals. Facilities are also provided to students and faculty for access to internet and online journals.

The circulation activities of the Library automated using “Software for Universities Libraries” (SOUL) developed by UGC – INFLIBNET. The resources of the library in terms of books, back volumes of the journals M.V.S.C and Ph.D theses and other reports through web based Online Public access Catalogue (OPAC) of the Library is under process for online access.
The library has an institutional membership. The University Officers, Professors and Associate Professors can borrow 15 books; Assistant Professors can borrow ten books and non-teaching staff can borrow two books at a time for a period of 30 days from the library. The UG students are eligible to borrow three books at a time for a period of 10 days.

**Library Collection:**

<p>| | |</p>
<table>
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<tr>
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</thead>
<tbody>
<tr>
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<td>Journals</td>
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<tr>
<td>Theses</td>
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<tr>
<td>Back Volumes</td>
<td>2,000</td>
</tr>
<tr>
<td>E-Books</td>
<td>632</td>
</tr>
<tr>
<td>E-Journals</td>
<td>20</td>
</tr>
<tr>
<td>Library staff</td>
<td>09</td>
</tr>
</tbody>
</table>

**The services provided by the Library:**

- Books Lending
- E-Books
- Reference
- Reprography
- SC/ST Book Bank
- Text Book Bank
- Current Awareness Services
- Selective Dissemination of information
- Internet
- E-Journals
3.5.5 Karnataka Veterinary, Animal and Fisheries Sciences University, Bidar

Realizing the loss of two decades of prime development in the growth of animal husbandry, dairy and fisheries under Agricultural Universities set up, the Government of Karnataka took bold steps in establishing the new University called Karnataka Veterinary, Animal and Fisheries Sciences University on the floor of the Legislative Assembly. The University was established exclusively for the development of education and learning; conduct of research and extension education and transfer the rural oriented technologies in the areas of Veterinary, Animal, Dairy and Fisheries Sciences in Karnataka. The logo of the University is inscribed with the slogan Farmers Friendly and Rural Oriented, which emphasizes the importance given to betterment of farming community.

KVAFSU is an autonomous academic institution governed by its Board of Management which regulates the polices of the university in accordance with the provision of act and statues. The University administration also has the support of the finance Committee. Academic matters are looked after by the Board of Studies of Faculties and the Academic Council, while Research Council and Extension Education Council decide the research and extension activities of the University, respectively.

KVAFSU Library has a very good collection of books and journals pertaining to Animal and Veterinary Sciences. The library book stack has been enhanced by more than 12000 textbooks, reference. The library has CD-ROM
i.e. VET-CD database (1972-2011) and also presently library is subscribing Indian and foreign journals to keep the students and faculty abreast of the latest Scientific & technical developments both in India and abroad. Beside these, the library subscribes to good number of general magazines and news papers and receives many newsletters, annual report and popular magazines gratis publications from SAUs, ICAR institutes and other Indian organizations. Library is having separate wing of E- Resources providing on-line journals services through CeRA consortium.

**BOOKS**

The library has a collection of over 9050 books. Of these, more than 1250 books are kept as reference books. Around 400 to 500 basic to advanced books are added every year for the users of the library.
JOURNALS:

(a) Current Periodicals: Journals are the medium of scientific communication because of its up-to-datedness. The library subscribes around 04 foreign journals and 32 Indian journals during last year (2013-14).

(b) Back Volumes: The old journals are hardbound and kept as Back Volumes for. So far, the library has built up over 1978 back volumes of journals.

(c) Theses: The library has 896 Master, Doctoral theses and during current financial year library has got.

FUNDING:

The annual budget of the Library is from around Rs.10.00 Lakhs funded by the University. The Library was also funded by NAIP and ICAR of Rs. 20.00 lakhs under 12th five year plan for modernization of Library like automation, digitization, purchase of Text Books and journal subscription.

SERVICES EXTENDED TO USERS/ RESOURCE GENERATED

E-JOURNALS

In the electronic age, information-seeking process has become so much easier and quicker by e-journals and digital library. Falling in line the western libraries, the Library also has activated on-line access more than 410 foreign journals in full text under CeRA Consortium, ICAR). Many more journals will be brought under on-line access in the near future.
CD-ROM DATABASES:

The library has CD-ROMs for the users to retrieve necessary scientific data. The Library subscribes to VET-CD database to extend effective information retrieval services to users.

NEWSPAPER CLIPPINGS SERVICES:

In the news clipping services also providing pertaining to Veterinary/Animal, Dairy and Fisheries in general were collected. Among these most of clippings are related to veterinary and dairy disciplines.

SPECIAL SERVICES OF THE LIBRARY CARRIED OUT:

Consortium for e-Resources in Agriculture (CeRA)

In addition to its own collections, the Veterinary College library, Bidar has access to Consortium for e-Resources in Agriculture (CeRA), an online journal consortium funded under NAIP of ICAR. CeRA provides access to
about 3,400+ online journals covering various disciplines of agricultural sciences including Veterinary and Animal Sciences.

Library is providing full text article through online under CeRA consortium (Consortium for e-Resources in Agriculture). Library is also providing Document Delivery services to other campus libraries of KVAFSU. Total four campus libraries of KVAFSU’s are member of CeRA consortium, ICAR, New Delhi.

LIBRARY SERVICES:

- Document lending
- Reference
- Education (Offers Compulsory Non-Credit Course PGS 501: Library and Information Services to all PG research scholars)
- Current Awareness Services (CAS)
- Selective Dissemination of Information
- Online Public Access Catalogue (OPAC)
- Reprography
  - Photocopying
  - Printing
- Resource sharing through:
  - Consortium of e-Resources in Agriculture (CeRA)
- News Paper Clipping Services for the benefit of Library users
- Information download from Online sources for the benefit of Library users
- Online Document Delivery Service (DDS)
- SC/ST Book Bank
- Text Book bank Services
- Organization of regular Information Literacy Programmes
- Binding of Documents
- Preparation and supply of Identity cards to the library users, and staffs.
LIBRARY AUTOMATION

The circulation activities of the Library automated using “Electronic Library” (E-Lib) software. Necessary equipments for automation of the Library viz., computers, barcode scanner, ID card printer, digital students usage movement register and barcode label printer have been procured under ICAR Development Grant 2011-12 and 2012-13, know the library is having separate audio visual section and totally campus library is automated.
A surveillance system with CCTV network had been installed at the Library to enhance and tighten the security system. In this network, 08 Nos. of cameras were installed at appropriate places of Library for recording the movements which will occur during working hours of the Library on all working days. The backup facility of Digital Video Recorder (DVR) has more than 30 days. The recording of 08 Nos. of cameras are being displayed on the screen of Desktop computer at a time with 08 slots which is placed at the Librarian Chamber to monitor the movements of users and the same is being recorded in DVR also.
Strengthening of Digital Library and Information Management under NARS (e-Granth) is a subproject under component-1 of National Agricultural Innovation Project (NAIP), Indian Council of Agricultural Research (ICAR).

It provides digital access to library resources of 12 different research institutes with 26 new partner libraries and state agricultural universities which include OPAC, important institutional repositories, rare books and old journals and makes them publically accessible over internet under NARS with Online Computer Library Centre (OCLC) partnership.

There are 4 objectives devised which are as follows,

1. Creation of Union Catalogue i.e, AgriCat which is interlinked to worldcat OCLC KVAFSU Bidar has contributed 42,142 record holding.

2. Digitization of valuable resources includes rare books, old journals & reports of all 38 partner libraries and makes them accessible under NARS, to which KVAFSU has digitized 45 lakh pages.

3. Strengthen capacity building for library and information management system i.e., Krishikosh has been developed on Dspace platform; so far KVAFSU has uploaded 8,661 records out of 11,274 documents and remaining yet to be uploaded. Institutional Repository of e-Granth (i.e., KrishiKosh) will be launching soon.

4. Implementation of Koha (Library Management Software) in partner`s libraries. Koha 3.14 has been successfully upgraded in KVAFSU Library.
OCLC/AgriCat:  [http://www.egranth.ac.in/AgriCat.html](http://www.egranth.ac.in/AgriCat.html)

KrishiKosh: [http://krishikosh.egranth.ac.in/](http://krishikosh.egranth.ac.in/)
3.5.6 Veterinary College, Bangalore

The Veterinary College, Bangalore is celebrating its Golden Jubilee year from September, 2007 to August, 2008. The Veterinary College, Bangalore was established on 25th July, 1958, by the then Hon’ble Chief Minister of Karnataka Shri. B.D. Jatti. The college was initially affiliated to Mysore University. In 1965, the institution became the constituent college of the University of Agricultural Sciences, Bangalore, under trimester system of education in lines with land-grant system of education. In 2005, after the establishment of Karnataka Veterinary, Animal and Fisheries Sciences University (KVAFSU), the college has become the part of the KVAFSU.

The college initially started functioning in Mysore Serum Institute, now called Institute of Animal Health and Veterinary Biological (IAH&VB). The present college, located in the 75 acres plot, which was inaugurated by His Highness The Maharaja Shri Jaya Chamarajendra Wodeyar, the Governor of Karnataka on 6th, 1962.

The main focus of this institution is to make Veterinary Education responsive to the growing needs of the society in general and aspirations of the livestock farmers in particular. In this direction it strives hard to produce highly skilled and competent manpower to meet the needs of the changing society and challenges of the new areas of research and extension. The college has produced 3164 veterinary graduates, 980 post graduates leading to Masters and 130 doctorates, who were and are working across the globe in different capacities.
E-JOURNALS

In the electronic age, information-seeking process has become so much easier and quicker by e-journals and digital library. Falling in line the western libraries, the Library also has activated on-line access more than 410 foreign journals in full text under CeRA Consortium, ICAR). Many more journals will be brought under on-line access in the near future.
CD-ROM DATABASES:

The library has CD-ROMs for the users to retrieve necessary scientific data. The Library subscribes to VET-CD database to extend effective information retrieval services to users.

SPECIAL SERVICES OF THE LIBRARY CARRIED OUT:

Consortium for e-Resources in Agriculture (CeRA)

In addition to its own collections, the Veterinary College library, Bangalore has access to Consortium for e-Resources in Agriculture (CeRA), an online journal consortium funded under NAIP of ICAR. CeRA provides access to about 3,400+ online journals covering various disciplines of agricultural sciences including Veterinary and Animal Sciences.
Library is providing full text article through online under CeRA consortium (Consortium for e-Resources in Agriculture). Library is also providing Document Delivery services to other campus libraries of KVAFSU. Total four campus libraries of KVAFSU’s are member of CeRA consortium, ICAR, New Delhi.

LIBRARY SERVICES :

- Document lending
- Reference
- Current Awareness Services (CAS)
- Selective Dissemination of Information
- Reprography
  - Photocopying
  - Printing
- Resource sharing through:
  - Consortium of e-Resources in Agriculture (CeRA)
- News Paper Clipping Services for the benefit of Library users
- Information download from Online sources for the benefit of Library users
Online Document Delivery Service (DDS)
SC/ST Book Bank
Audio-visual facility
Text Book Bank Services
Binding of Documents

ELECTRONIC SURVEILLANCE SYSTEM OF CCTV NETWORK
A surveillance system with CCTV network had been installed at the Library to enhance and tighten the security system. In this network, 10 Nos. of cameras were installed at appropriate places of Library for recording the movements which will occur during working hours of the Library on all working days. The backup facility of Digital Video Recorder (DVR) has more than 30 days. The recording of 10 Nos. of cameras are being displayed on the screen of Desktop computer at a time with 10 slots which is placed at the Librarian Chamber to monitor the movements of users and the same is being recorded in DVR also.

Circulation Section:

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<tr>
<td>Theses</td>
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<tr>
<td>Back Volumes</td>
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</tr>
<tr>
<td>E-Books</td>
<td>250</td>
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<tr>
<td>E-Journals</td>
<td>30</td>
</tr>
<tr>
<td>Library staff</td>
<td>08</td>
</tr>
</tbody>
</table>
3.5.7 Veterinary College, Shimoga

Veterinary College was established in the year 2006 and started functioning in the NSS building of the Sahyadri Science College on 11.09.2006 with initial intake of 27 students. During the year 2007-08 a total of 35 students were admitted to B.V.Sc. & AH. An area of 158 acres has been acquired for the college at Sominakoppa near Shimoga for construction of the college building. The construction work of various buildings is in progress.

Library Services:

- Current Awareness Services
- Circulation Services
- Inter Library Loan Services
- Photo copying Services
- New paper clipping Services
- Text Book bank Services
- Selective Dissemination of Information
- Reference Services

Library Collection:

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</tr>
<tr>
<td>Sunday</td>
<td>10 A.M To 2 P. M</td>
<td></td>
<td></td>
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99
3.5.8 Veterinary College, Hassan

Veterinary College was established in the year 2006 College on 11.09.2006 with initial intake of 30 students. During the year 2007-08 a total of 40 students were admitted to B.V.Sc. & AH. An area of 300 acres has been acquired for the college at Hassan. The new campus construction work of various buildings is in progress.

Library Services:

- Current Awareness Services
- Circulation Services
- Inter Library Loan Services
- Photo copying Services
- New paper clipping Services
- Text Book bank Services
- Selective Dissemination of Information
- Reference Services

Library Collection:

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Sri Venkateswara Veterinary University

The establishment of Sri Venkateswara Veterinary University was the culmination of efforts during the period, 1955 to 2006 to strengthen education research and services in the fields of Veterinary Science, Dairy Technology and Fishery Science in the State of Andhra Pradesh. The establishment of three Veterinary Colleges, the first at Rajendranagar during 1946, the second at Bapatla during 1955 and the third at Gannavaram during 1998, paved the way for strengthening Veterinary education in the State. The Veterinary College at Bapatla was shifted to Tirupati during December, 1957. The College of Fishery Science was started at Muthukur, SPSS Nellore Dt. during 1991. The College of Veterinary Science, Tirupati celebrated Golden Jubilee Year during July, 2004 to July 2005 and the yearlong Golden Jubilee Celebrations of the College were officially inaugurated by the then Hon'ble Chief Minister of Andhra Pradesh, Dr.Y.S.Rajasekhara Reddy on 30th September 2004. On that occasion, the Chief Minister, while highlighting the importance of livestock and aqua farming in the overall economy of the state, announced the establishment of Sri Venkateswara Veterinary University at Tirupati.

3.5.9 College of Veterinary Science, Rajendranagar

The College of Veterinary Science, Rajendranagar, Hyderabad was established on 5-8-1946 as one of the constituent colleges under Osmania University with the objective of imparting and promoting Veterinary education at under-graduate level in erstwhile Hyderabad State. Later, the College was permitted by ICAR, New Delhi for training additional number of students for
awarding B.V.Sc & A.H. degree from other States of India. During the year 1957, Kansas State University, USAID programme was initiated for strengthening Veterinary education in the State. The faculty were deputed to Kansas State University, USA for higher training in different disciplines of Veterinary and Animal Sciences.

The College was transferred to the fold of Andhra Pradesh Agricultural University (APAU), on 10th July 1964 and was shifted to Rajendranagar campus in 1968. The College at present has 18 departments with the adoption of Veterinary Council of India minimum standards of Veterinary education from 1994-95 onwards.

The post-graduate programme was introduced in selected Departments of the College during 1967 and the programme was gradually extended to all the Departments. In addition, Ph.D. programme was started in the Departments of Livestock Production and Management, Poultry Science, Animal Nutrition, Anatomy, Physiology, Pharmacology, Medicine, Anatomy, Animal Genetics and Breeding, Livestock Products Technology and Microbiology. As per the guidelines of Veterinary Council of India, new Departments of Veterinary Epidemiology, Biochemistry, Veterinary Public Health and Livestock Production and Management were created.

The teaching staff are engaged not only in teaching but also in research and extension activities. Majority of the Departments have their own research projects funded by National and International agencies. The present strength of UG students is about 400 and PG and Doctoral students is about 40. The
students are accommodated in separate hostels for boys and girls, which are located near the campus. The clinical training is imparted in Teaching Veterinary Clinical Complex units located in the City at New Bhoiduda, Campus hospital and Rural Hospital located at Mylardevupally, about 4 km from the campus. The students also get exposed to co-curricular activities. The NSS camps are conducted every year in different districts of the region wherein the teaching and supporting staff also participate. The College has a Remount Veterinary Regiment, which is headed by an officer of the Lt. Colonel rank. The students are imparted training in equestrian and NCC and participate in the NCC camps held at New Delhi during Republic Day celebrations, besides attending to on station NCC camps, expeditions, etc. The students also participate in the Inter collegiate, National level sports, games, cultural and literary events.

**Library Services:**

- E-Books Services
- E-journals
- Current Awareness Services
- Circulation Services
- Inter Library Loan Services
- Photo copying Services
- New paper clipping Services
- Text Book bank Services
- Selective Dissemination of Information
- Reference Services
- Internet Services
Library Collection:

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3.5.10 College of Veterinary Science Tirupati

The College was started on 15th July, 1955 at Bapatla under administrative control of Department of Animal Husbandry under affiliation to Andhra University with an intake of 48 students. The first three batches of students were admitted at Bapatla during 1955 - 1957 and the college was shifted from Bapatla to Tirupati during December, 1957 and was brought to the control of APAU (now ANGRAU). The College was later brought under control of Sri Venkateswara University, Tirupati after formation of the new Veterinary University in 2005.

This college was the first in India to start Earn While You Learn Project in 1964 to give work experience to students so that they can start their own self-employment plans. An outpatient clinic in Tirupati town was opened to serve the public and also to provide clinical exposure to the students. The new building of the town Hospital complex in 1.02 acre land was inaugurated on
11-9-1987. The institution started an Ambulatory Clinic on 1-8-1967. A biotechnology laboratory was inaugurated on 10-7-98. Post-graduate courses leading to Masters Degree in Veterinary Science were instituted during 1967-68 to man teaching and research assignments. P.G. Diploma in swine husbandry and Pork Technology was offered for some years from 1978-79 and five candidates obtained their diplomas. At present PG Programme is offered in all departments. So far, 679 students have completed their Post-Graduation from this college. Doctorate programme was started in the subject of Pathology during the year 1976-77. At present Ph.D is offered in 12 disciplines. So far 73 scholars were awarded Ph.D. degree. Agricultural Human Resources Development Project funded by World Bank to improve infrastructure and quality of Agricultural Education was implemented from August 1995 initially for a period of 5 years up to 31st December, 2000, but it was extended by 1 more year up to 31st December, 2001. Fifteen teachers were trained abroad during 1998-2000 under the programme.

**Library Collection:**

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Library Services:

- Circulation Services
- Current Awareness
- E-Books Services
- E-Journal Services (CERA)
- Inter Library Loan Services
- Photo coping Services
- Newspaper clipping Services
- Reference Services
- Internet Services

3.5.11 NTR College of Veterinary Science, Gannavaram

The NTR College of Veterinary Science, Gannavaram was established in the year 1997-98 vide G. O. Ms. No.33, Agri & Co-op (Agri. III) Department, dated 03-03-1998 and it started functioning from 18-03-1998 as a constituent college of ANGRAU, Hyderabad and has later become a constituent college of Sri Venkateswara Veterinary University, Tirupati. This college has been offering UG programme of BVSc & AH from 1998 and from the academic year 2008-09, PG programme in the disciplines of Veterinary Pharmacology & Toxicology, Veterinary Surgery & Radiology, Veterinary Pathology Animal Nutrition was started. Subsequently, PG programme in the disciplines of Veterinary Anatomy, Veterinary Microbiology, Livestock Production Management and Livestock products technology was started.
**Library Collection:**

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**Library Services:**

- Circulation Services
- Current Awareness
- E-Books Services
- E-Journal Services (CERA)
- Inter Library Loan Services
- Photo coping Services
- Newspaper clipping Services
- Reference Services
- Internet Services
3.5.12 College of Veterinary Science, Korutla

The Government of Andhra Pradesh established a new Veterinary College during the year 2008-09 at Korutla vide G.O.Ms. No. 96, Dated:19.9.2008 of the AHDD & F Dept, Government of Andhra Pradesh. The College started functioning from the academic year 2008-09 with an intake of 19 students into the first year B.V.Sc & A.H course. The District Collector, Karimnagar Dt. has allotted land to an extent of Ac.72-19 cts on long lease basis for the construction of new college building. So far, 3 batches students were admitted and the total number of students on rolls is 79 (57 boys + 22 girls)

Library Collection:

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Library Services:

- Circulation Services
- Current Awareness
- Inter Library Loan Services
- Photo coping Services
- News paper clipping Services
- Reference Services
- Book Reservation
- Book Renewal
- Reader's Guidance
- CD-ROMs / DVDs
References

Additional Readings

Anonymous, 1852, Gocharitra, Script.


Sharma, R.N. 1931. Vedic Sampatti, Sarvdeshik Arya Pratinidhi Sabha, New Delhi, India.

Vedshrami, V.S. 1961, Vedic Sampda, Govindram Hasanand, Delhi, India.