

15 . Role of cattle and other domestic animals- management of cattle for draught and milk – indigenous breeds

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, fibre, 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 5000-3000 BC, Puranas 2000-1000 BC, and Artha-sastra 300-600 AD; Ramayana is considered 9000 years old, Mahabharata 5000 years old, and Jain and Buddhist literature about 2500 years old.

Domestication of animals

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 brought by Aryans in India. The present-day cattle of Sind, Gujarat, and Rajputana are similar to those that existed in Mohenjo-daro.

Animal husbandry in Vedic literature

Many uses of animals and birds for 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.

Cow is referred as “aghnya” which means not to be killed but to be raised and protected. Likewise, Vedas have directed to protect other animals too. 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.

The Aryans, in the Vedic Age, knew the importance of pasture and forests . They used to graze their cattle by taking them to the grasslands in the morning and bring them back in the evening. 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. 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 practised 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. The quality of some cows which let down milk merely on the sight of their calves has been well observed and referred to.

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.

Animal husbandry during 200-300 BC

The Buddhist text (Suttanipata) declares cattle to be givers of food, beauty, and happiness 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 milch 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.

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.

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 into Amritmahal breed.

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 Fazal, Kachhi horses being equal to Arabian horses. Goat breeds of Bengal and Coach 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) flour, 1 1/2 seers jaggery, and fresh grass or hay feeding is suggested. It has been mentioned to keep 3 bighas land for grass.

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 61 1/4 seers grain and 1 1/2 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 seers wheat flour, 1/2 seer molasses, 1 1/2 seers 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.

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 practised. The present-day animal husbandry development is an outcome of the gradual enhancement in knowledge in this field for thousands of years.

Dairy production systems

In ancient India, number of cows that were kept by the people is amazing. There are instances that people possessed lakhs (one hundred thousand is one lakh) of cows and one King used to donate or drive away the entire cow herd of other kings when there used to be any conflict between them. We can imagine that in such an endeavor the tremendous human power that would be required to drive away such a large herd from one place to another. This indicates that the number of animals in those days was far more than the total livestock population existing today. Not only this, the husbandry practices and grazing facilities for cows were very good and in abundance. Lord Krishna used to call his cows by name (a method of identification of animals). In Garg Sarnhita (Golok Khand) three titles, which used to be conferred upon persons possessing cowherds are mentioned below.

Brakh - the person who reared 10 lakh (one million) cows,

Nand - the person who reared 9 lakh cows,

Upnand - the person who reared 5 lakh cows,

The existing thumb rule of feeding concentrate ration to the animals was based on the feeding standards of ancient days, which by and large approximate to the present-day feeding standards of animals.



Evidently, ancient India has thus remained traditionally a "dairying" country and the prosperity and social status of a person was judged not by the landholding but by the number of cows he possessed. Hence, the present day sciences by no means can estimate vast utility and purpose of cows, which our ancient visionaries had realized, propounded and established.