### CHAPTER 1

### LIVESTOCK RESOURCES

Livestock sector is an important component of India's economy in terms of income, employment, equity and foreign exchange earnings. Following the sustained economic growth and rising domestic incomes, the demand for livestock products has increased tremendously. This has encouraged the rapid expansion of livestock output during the last two decades, particularly for exports.

The value of the output from livestock sector was Rs. 156,080 crores (US\$ 33,930 million) which consisted of Rs. 107,544 crores for milk group (US\$ 22,881 million), Rs. 24,876 crores (US\$ 5,292 million) for meat group, Rs. 5,238 crores for egg group and Rs. 10,627 crores for poultry meat, besides hides, skin, horns (Jewellery), hoofs dung etc. (Rs. 6,000 crores) (DAHD – GOI - 2004). With the projected growth since 2004 at an annual increment of 4%, it should work out to about Rs. 193,080 crores for livestock sector, Rs. 145,044 crores for milk group, Rs. 30,876 crores for meat group, Rs. 6,538 crores for egg group and Rs. 12,825 crores for poultry meat.

Among the livestock sector, cattle and buffalo play a major role in India's economy since it has about 13% of world cattle population and 56% (105 million) of world buffalo population. (Table 1) These animals are maintained by rural families with small land holdings of 1 – 2 acres and landless labourers for milk, draught and meat production. In addition, India has 140.5 million goats, 71.5 million sheep and 11 million pigs for meat and fibre production. (GOI – 2007)

In India, large ruminants (cattle and buffaloes) are primarily kept for milk production and secondarily for meat production. When the dairy animals are retired from productive age, they are utilized for meat production in addition to male progeny born. Utilization of large animals has gone down as draught animal due to progressive mechanization.

#### PRODUCTION SYSTEMS

### Cattle and Buffaloes

The majority of cattle / buffalo owners are subsistence farmers with little or no land (½ to 1 acre), and with 2 cattle-buffalo on an average. Bovines (cattle and buffaloes), provide milk, meat, draught power and manure, and utilize non-marketable farm byproducts and extra family labour. The general features of production system on small farms under village conditions are – (1) It is complementary to crop production; (2) Marginal lands and non-marketable bio-mass are efficiently utilized; (3) readily available / surplus family labour are economically utilized, (4) simple and traditional technologies requiring minimum cash inputs are employed; (5) production is non-market oriented, and (6), therefore, economic risks are very little.

For city milk supply specially in large metropolitan cities large herds of superior cattle and buffaloes purchased from their home tract, are maintained under stall fed conditions. Their major feeding system is composed of dry roughages supplemented with some seasonal green fodder and large quantities of concentrates. Most of the buffalo calves, generally males, are allowed to die intentionally by the owners for economic reasons. The buffalo cows also end up in slaughter house after they go dry.

Well managed government owned farms also exist where scientific breeding, feeding, management and health care are practiced. These farms maintain 100 – 300 breedable females and their followers.

## Sheep and Goats

Small ruminants (sheep and goats) are maintained both under confinement (stall feeding) with 1 – 5 units and extensive grazing system where 10 to 50 units are maintained.

The sheep population is 71 million and wool production is about 45 million kg annually. The sheep is used mainly for mutton production and also for fibre production.

The goat population is about 140 million and annual growth rate is about 2%. Goats are reared for meat, milk and hides. The share of goat milk is about 3.5% in the total milk produced in India.

# Poultry and Pigs

Poultry production is being steadily commercialized where a few hundred thousands of layers and broilers are kept. Forty per cent production at present is under this system and remaining 60 per cent is still with small farmers as backyard system. Pig production is still scavenging and now a few commercial breeding units have come up in some States.

## Feeding of Animals

Animal feeding is one of the major inputs in livestock industry accounting for 55 – 75%. Feed resources are the major constraints in exploiting the genetic potential of the livestock.

Ruminants are fed on crop residues, green fodders, non conventional feed resources and compounded livestock feeds. Animals are also grazed on natural pastures. Feeding of mammalian byproducts is prohibited in India. Similarly, hormones and antibiotics are not fed as feed supplements to lactating and meat animals. Therefore, dairying and meat production is organic. The compound Livestock Feed Manufacturing Industry is well organized producing livestock feed to cater to feed requirement of animals.

#### Animal Health

India is free from all the trade related diseases listed at List 'A' of OIE except an insignificant incidence of foot and mouth disease. India is free from Rinderpest. Bovine Spongiform Encephalopathy (BSE) and Contagious Bovine Pleuropnemonia (CBPP) as per the Organization International Des Epizooties (OIE) Notification. India has been exporting quality and safe meat.

India has a very elaborate and effective Animal Health Service System for systematic control of livestock diseases. This includes efficient disease diagnostic facilities, nationwide surveillance of various diseases and creation of disease free zones to facilitate export of livestock products. There are 250 disease diagnostic laboratories in the country for quick, accurate and speedy diagnosis of the livestock diseases of which 32 laboratories exist at the State level with ELISA facilities.

The disease diagnostic laboratories are fully equipped and manned by specialists of different disciplines. The country has 26 veterinary biological units for production of wide range vaccines using modern and latest technologies. As a result of various programmes launched by the Govt. of India, the incidence of various livestock diseases has reduced considerably. India has well established veterinary services. It has 8,720 Veterinary Hospitals, 17,820 Veterinary Dispensaries, 25,433 Veterinary Aid Centre, 57,000 Veterinarians and 50,000 para-veterinarians.

In case the area surrounding a production unit gets affected by FMD, it is cordoned off and mass vaccination is done against the disease to restrict the spread of disease from one village to another. The cattle markets are closed to contain the infection. There is virtually no possibility of bringing animals from FMD infected endemic areas to the export oriented plants. It would be further relevant to mention that the buffalo carcasses are chilled at a temperature of 2-4°C for minimum 24 hours in chillers. Scientifically it has been proved that the lactic acid produced in the muscle tissues during this period helps to bring down the pH value of the meat to below 6. No FMD virus could remain viable below a pH value of 6 so as to cause any disease problem in the importing country. Moreover, the meat is deboned and deglanded as stipulated in the OIE Terrestrial Animal Health Code. Hence, the product is absolutely safe and risk-free.

