Factors like agro-climatic conditions, performance of agriculture, degree of mechanisation, cropping pattern, ownership and distribution of land have significant influence on size, composition and productivity of bovine stock across regions in India. The present study attempts to examine the experience of bovine development in Tamil Nadu by analysing the trends in work and milch animal population, distribution of bovines, milk production, demand for milk and consumption pattern of milk.

The role of bovines in Tamil Nadu economy and its changes over time during the first half of the 20th century are analysed to obtain a historical perspective. There was a transition in the bovine sector i.e., dairying was slowly gaining importance from mid-'thirties in the state. This finding stands as a base for the further analysis.

The role of bovines as a source of motive power in Tamil Nadu agriculture was examined by tracing the trends in work animal population, its composition, use pattern, density and the factors that are shaping the observed trends. The density of work animals per hectare of gross cropped area was increasing in the 1950s; it remained unchanged till the mid-1960s, and showed a declining trend thereafter. The decline in the density was very sharp and significant from the 1980s. The density of work animal stock is influenced by a large number of factors. The contribution of these variables is examined using a regression model. The contribution of tractorisation has become dominant and influenced the density of work animals negatively indicating that tractorisation has played significant role in the displacement of work animal population in recent years. The analysis indicated that while the agro-climatic and irrigation factors played a major role in shaping the work animal density prior to the mid-1970s, the technological, economic and institutional factors have played a major role in recent years.

The trends in the milch animal population revealed that the importance of dairying has been increasing steadily in the state. The trends in the composition of milch animals were in favour of high yielding varieties. Though the density of work animals is the dominant determining factor of the density of breeding cows, its influence has been declining over time, and that of other (unexplained) factors have been gaining importance in recent years.

The trends observed in the work and milch animal population at the macro level are supported by changes across size-class of land holdings. Accordingly, the distribution of animals also has changed over time. The growing importance of milch animals, particularly among the marginal and small farmers, is also observed.
Milk production has shown a steady increase throughout the reference period. However, a declining trend in the growth rates of milk production was observed from the early 'eighties. The findings on the increasing trend in milk production were contributed by cow milk and its productivity effect. The changes in the relative contribution of the components/factors to the growth in milk production are partly due to certain structural changes in the characteristics of milch animal stock and their management. There was a boom in the spread of artificial insemination in the 'eighties and the growth in the number of artificial inseminations done has slowed down in the 'nineties. The feeding practices have changed significantly. The proportion of milch animals under grazing has declined drastically and the major shares of animals have been shifted under both grazed and stall-fed. Moreover, there was a marked increase in the average quantity of feeds and fodder fed per animal per day in almost all the categories of feeding patterns. It is observed that there has been a steady increase in the per head availability of green fodder during the nineties. This observation not only justifies our earlier argument that the management of feeding have improved, but also provides a reasonable explanation for the improvements in the milk yield levels and the increase in total milk production in Tamil Nadu.

The demand for milk, consumption patterns and their changes over time are analysed from the point of view of quantity, expenditure and nutrition. The growing demand for milk in Tamil Nadu is supported by the growth in population and per capita income and the price movements of milk compared with those of its close substitutes. It is argued that the institutional factor i.e, the growth in the milk cooperatives has facilitated the developments in the commercialisation of dairying. And, in recent years, the roles played by price and non-price factors are significant for the developments in the milk economy.

The observed trends in work animal population, milch animal population and the trends in milk production, demand and consumption clearly indicate that dairying has been gaining importance in the bovine economy of Tamil Nadu. The changes in size, composition and distribution of bovines are found to be broadly in response to the development of dairying in Tamil Nadu. The selective removal of male at the first year of birth indicated that females have gained importance in the bovine composition. Moreover, farmers adopt several adjustment strategies to maintain milch stock of higher yield levels.

The findings of our study have indicated certain specific prospects for the bovine sector of Tamil Nadu. The scope for dairy development is wide; it is facilitated further by the decline of the work animal sector. However, feed resources and marketing and veterinary supports are to be expanded for sustaining the development. In the context of the economic liberalisation of the dairy sector, private milk marketing and processing units are likely to take a leading role in the future. The study also has revealed the bleak prospects for developing the meat industry in the state in the years to come.