

## CHAPTER - II

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RESEARCH METHODOLOGY

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## 2.1 Introduction :

The main orientation of study is to make <sup>a</sup>the scientific analysis of the growth and distribution of bovine population. The data collected through primary and secondary sources were processed and presented by statistical and cartographic techniques. The various methods and techniques used are explained in the relevant sections in the text. Concentration index is applied to calculate the intensification of bovine while diversification and combination index is used for demarcating the bovine regions.

In such type of study the methodology is adjusted to the situation, as no single method is adequate for investigation, Chorepleth technique is used for showing the distribution of bovine population.

In order to rectify the limitations of the sources of data, some departmental official, specially of the Department of Animal Husbandry and Veterinary Science were contacted and thus the collection of data was completed.

The interview technique was also adopted by meeting the progressive farmers and small and marginal cultivators, who are mostly engaged in cattle rearing, and heads of the institutions and departments of public and private undertakings.

Various diagrams, tables, charts, etc., relevant to our study were prepared for investigation and analysis.

## 2.2 Literature - Review :

Specifically economical investigation<sup>s</sup> of the livestock phenomenon pertaining to India are relatively rare. However, in Maharashtra some studies about bovine animals and fodder resources have been made by economists, geographers, and agriculturists. Many research studies in the field of bovine animals and feed and fodder have been undertaken but these studies have, by and large, neglected the economic aspects.

So far as Kolhapur district is concerned, no studies have been made on the bovine animals-wealth, though the district has a significantly rich bovine animal wealth. The Agricultural Universities of the state have done the livestock and fodder resources study, but some economic and distributional aspects have totally been neglected in these studies. This research report is designed to fill, at least partially, this gap in the bovine animal study.

## 2.3 The need of the study :

The choice of the area and the topic under investigation have been influenced by several considerations. Firstly, this area occupying the southern part of Maharashtra is regarded as one of the richest in bovine animal with a variety of superior breeds in Maharashtra. Secondly, the region experiences varied physiographic, economic and climatic conditions from the west to the east and the north to the south resulting in varied bovine distribution and fodder supply. Thirdly, the distribution of

breeds and bovine animal is not uniform. It varies from taluka to taluka. The fodder supply is also varied and not sufficient to all bovine animal of the district. No investigation is undertaken about the bovine animals distribution from economical point of view. Therefore, this study is important.

All these considerations motivated the researcher to turn his attention to this region and its economical study of size and utilization of bovine animal.

#### 2.4 Objectives of the study :

- (a) To find the trend of growth of bovine population in Kolhapur district.
- (b) To analyse the behaviour of the owners of the cattle and of resources for agricultural operations.
- (c) To understand the contribution of bovine animals towards dairy development achieves.
- (d) To study the cost and returns of milk production.

#### 2.5 Sampling plan :

The main body of the data required is collected from the primary and secondary sources.

##### Primary sources

Village and taluka level statistics is collected through different sources such as questionnaires circulated to village officials. The information is also collected through personal interviews and discussions with knowledgeable farmers to test the validity of the propositions.

**(A) Selection of Talukas and Villages**

- 1) There are 12 talukas in Kolhapur district, out of these 12 talukas, two talukas were selected having maximum population of bovine animal; so that, they represent the maximum proportion of activities of bovine animal in the district. These two talukas were Panhala and Karvir. This enabled us to know the economic activities carried by the farmers and how much to the maximum extent they can be benefitted.
- 2) In order that irrigated and unirrigated village farmers should be represented in the sample one irrigated village from Karvir taluka and one unirrigated village from Panhala taluka were selected by using lottery system.
- 3) The two villages thus selected are village Koge (taluka Karvir) and village Aпти (taluka Panhala).

**(B) Selection of farm families**

In Kolhapur district distribution of farmers on the basis of land holding is as follows :-

- i) 50.24 percent Marginal farmers
- ii) 19.63 percent Small farmers
- iii) 20.63 percent Medium farmers
- iv) 9.50 percent Big farmers

(Same report in Agricultural Census 1970-71 M.S. Bombay)

The samples from these two villages total 60 farmers are selected as shown below :-

| <u>Farm family</u> | <u>Percentage</u> | <u>Type of Farmers</u> |
|--------------------|-------------------|------------------------|
| 24                 | 40.00             | Marginal farmers       |
| 16                 | 26.70             | Small farmers          |
| 12                 | 20.00             | Medium farmers         |
| 8                  | 13.30             | Big farmers            |
| <u>60</u> ✓        | <u>100.00</u>     |                        |

### Secondary Data Sources

It includes published and unpublished reports and abstracts, such as quinquennial livestock census reports, statistical abstracts, district census handbook, Maharashtra Government Gazetteers, Socio-economic review, agricultural bulletins, reports of animal husbandry and veterinary department, Annual reports on animal and dairy science, published and unpublished research papers, and some unpublished documents by animals husbandry department.

It is understood that the collection of the secondary data would be more convenient and as the first step of data collection the main concern was the study of literature on the subject.

### 2.6 Scope and limitation :

The present study covers only bovine animal such as bullocks, cows and buffaloes. The study is confined to taluka level. The boundary of the district has undergone change since May 1981. 37 villages from Bavda taluka have been transferred to the newly formed Sindhudurga District. Livestock census

operation in the district became more scientific and achieved uniformity from 1961. This new trend has facilitated comparison and cross checking of different, decennial and quinquennial census reports. But as mentioned elsewhere, the secondary source alone couldnot provide all the necessary information and this forced the researcher to go to the field for the collection of primary data.