Topic: Meaning of Statistics

The word statistics has different meaning to different persons. Knowledge of statistics is applicable in day to day life in different ways. In daily life it means general calculation of items, in railway statistics means the number of trains operating, number of passenger's freight etc. and so on. Thus statistics is used by people to take decision about the problems on the basis of different type of *quantitative and qualitative* information available to them.

However, in behavioural sciences, the word 'statistics' means something different from the common concern of it. Prime function of statistic is to draw statistical inference about population on the basis of available quantitative information. Overall, statistical methods deal with reduction of data to convenient descriptive terms and drawing some inferences from them. This unit focuses on the above aspects of statistics.

Definition of Statistics

The word statistics has been derived from Latin word 'status' or Italian 'Statista' meaning statesman. Professor Gott Fried Achenwall used it in the 18th century. During early period, these words were used for political state of the region. The word 'Statista' was used to keep the records of census or data related to wealth of a state. Gradually, its meaning and usage extended and there onwards its nature also changed.

In this unit emphasis is on the term statistics as a branch of science. It deals with classification, tabulation and analysis of numerical facts. Different statistician defined this aspect of statistics in different ways. For example.

A. L. Bowley gave several definitions of Statistics:

1. i) "Statistics may be called the science of counting" . This definition emphasises

   enumeration aspect only.

2. ii) In another definition he describes it as " Statistics may rightly be called the science of average".

iii) At another place Statistics is defined as, "Statistics is the science of measurement of social organism regarded as a whole in all its manifestations".

All three definitions given by Bowely seem to be inadequate because these do not include all aspects of statistics.

According to **Selligman** "Statistics is the science which deals with the methods of collecting, classifying, presenting , comparing and interpreting numerical data collected to throw some light on any sphere of enquiry".

Croxton and Cowden defined "statistics as the collection , presentation, analysis ,and interpretation of numerical data".

Among all the definitions , the one given by Croxton and Cowden is considered to be most appropriate as it covers all aspects and field of statistics.

These aspects are given below:

Collection of Data : Once the nature of study is decided , it becomes essential to collect information in form of data about the issues of the study. Therefore, the collection of data is the first basic step. Data may be collected either from primary source or secondary or from both the sources depending upon the objective/s of the investigation

Classification and Presentation : Once data are collected , researcher has to arrange them in a format from which they would be able to draw some conclusions. The arrangement of data in groups according to some similarities is known as classification.

Tabulation is the process of presenting the classified data in the form of table. A tabular presentation of data becomes more intelligible and fit for further statistical analysis. Classified and Tabulated data can be presented in diagrams and graphs to facilitate the understanding of various trends as well as the process of comparison of various situations.

Analysis of Data : It is the most important step in any statistical enquiry . Statistical analysis is carried out to process the observed data and transform it in such a manner as to make it suitable for decision making.

Interpretation of Data : After analysing the data, researcher gets information partly or wholly about the population. Explanation of such information is more useful in real life. The quality of interpretation depends more and more on the experience and insight of the researcher.