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## Importance and significance of Statistics in Geography

### 1. Meaning of Statistics:

- The word “Statistics”, is generally used, has been derived from the Latin word ‘Status’ that means a group of numbers or figures; those represent some information of our human interest.
- Sir Jhon Sinclair introduced the term 'statistics' into English in his 'Statistical Accounts of Scotland' in the year 1791.
- The ‘word statistics’ is used in two different senses. Firstly, it refers to a collection of numerical figures or data obtained from field or human activity. For example, statistics of educational institutions, statistics of health institutions and so on. Secondly, the word ‘statistics’ refers to the subject of scientific activity which deals with the theories and method of collection, analysis and interpretation of such data.

### 2. Characteristics of Statistics:

1. In the statistics, all available information is expressed in quantitative terms.
2. Statistics must be aggregates of facts.
3. Statistics must be related to some field of inquiry.
4. Statistics should be capable of being related to each other, so that some cause and effect relationship can established. In regression analysis, these are useful for ‘prediction’.
5. Statistics are affected by a multiplicity of causes. In all fields of inquiry, the observed data are the result of a large number of factors, each of which contributes to the final figure.



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### **3. Limitations of Statistics:**

1. Statistics is applicable only to quantitative data. This cannot be used to study such events which cannot be expressed numerically.
2. Statistics can be used to analyse only collective matters, and not to individual events.
3. Statistical decisions are applicable only on the average and in the long run. They may not hold in a particular case.
4. Statistical methods should followed proper perspective of the collection of data. In not applied, may lead to false conclusion.

### **4. Importance of Statistics in Geography:**

1. Statistical methods are helpful to summaries of the characteristics of a variable or data set (e.g. mean, medium, mode, dispersion, mean deviation, standard deviation, skewness, etc.).
2. Helpful to conduct various field survey likes - socio-economic survey, market survey, etc. (e.g. sampling methods).
3. Helpful to understand trend, seasonal and cyclical nature of a particular geographical event. (e.g. time series analysis).
4. Statistical analysis enables to establishment of relationship between various geographical factors. (e.g. regression analysis).
5. Vital statistics and demography are useful for the calculation and establishment of geographical indicators. For example- population density, population growth rate, literacy rate, work participation rate, maternal mortality rate, etc.
6. Statistical methods are helpful to understand the influential variables in a particular event and used to construct an index. (e.g. principal component analysis).

### **5. Significance of Statistics in Geography:**

1. Make generalize view with concerning complex spatial pattern.
2. Estimate likelihoods patterns at particular location.
3. Learn whether actual pattern matches an expected or theoretical view.
4. The statistical techniques can explore the cause and effect relationship in long, medium or short run on a particular or specific topic.
5. The outcomes of statistical results may be used for future planning and forecasts.