

# **E-CONTENT PREPARED BY**

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**NAAC Accredited "A" Grade College  
(*Recognized under Section 2(f) and 12(B) of UGC Act 1956*)**

**E-Content prepared for students of  
B.Sc. Programme in Economics**

**Name of Course: Data Collection and  
Data Processing  
(BSCPECOSE301)**

**Topic of the E-Content**

***Population Census vs. Sample Survey***

## **Learning outcomes:**

- 1. Understand population census and sample survey method.**
- 2. Learn the advantages of sample survey over population census.**
- 3. Distinguish between population census and sample survey.**
- 4. Know the concept of random and non-random-sampling.**
- 5. Apply the different sampling techniques.**

## **Introduction**

A statistical enquiry begins with data collection through survey. The investigation undertaken may cover each and every member in the course of enquiry or collect a representative part or sample of the whole or population. The choice of population census and sample survey depends on the size of the population, feasibility to the population, research objectives, degree of accuracy required, availability of time, financial resources etc.

**Population census or Complete Enumeration:** covering each and every member of the population in the course of any investigation is called population census or complete enumeration.

**Sampling or sample survey:** Selecting a part of the population is called sampling or sample survey. Conclusions regarding the whole population are drawn from the results given by the sample.

Sampling has some advantages over complete enumeration and also suffers from some limitations.

### **Advantages of sampling:**

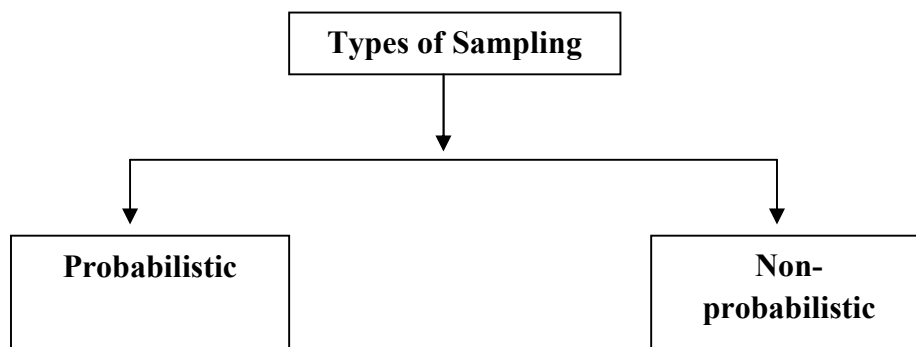
1. It is economical.
2. It has a greater scope.
3. Sometimes it gives data of better quality than complete enumeration.
4. In some destructive processes sampling is the only way.
5. In some cases the entire population is infeasible then sample survey is the only means.

### **Limitations of Sampling:**

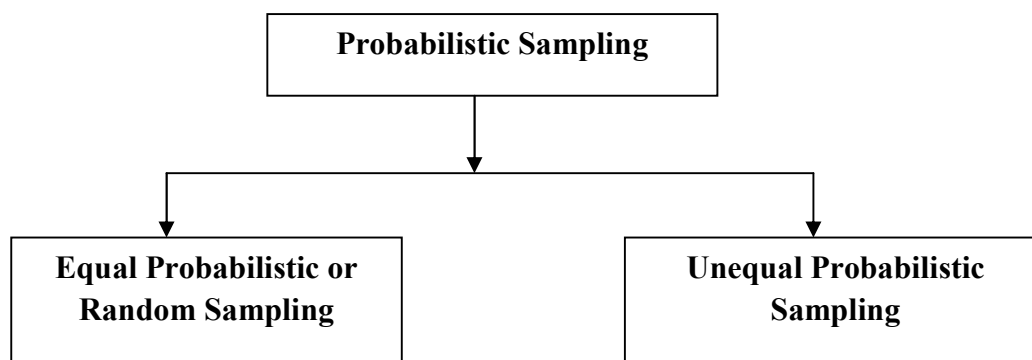
1. When it is necessary to understand each and every member of the population at an individual level then sampling is ruled out.
2. It requires special skill and training.
3. Sampling is successful on if the sample is a representative of the population otherwise it leads to bias.

### **Steps in sample survey:**

1. Plan the survey.
2. Select the sampling method.
3. Prepare questionnaire.
4. Choose the ultimate sampling unit.
5. Executing the sample survey.
6. Collecting the data.
7. Analysing the data.



Probabilistic Sampling is a type of sampling technique in which each member has a certain probability associated with it of being selected into the sample. Non-probabilistic sampling on the other hand is a type of sampling in which sample is drawn from the population according to one's whims, judgements etc.



**Random Sampling:** It is a type of sampling in which each and every member of the population has an equal chance or probability of being selected into the sample from the population.

Let there are  $N$  members in the population, then each member has an equal chance of  $1/N$  of being selected into the sample from the population. Let a sample of size  $n$  is made by drawing a random sample from a population of size  $N$  then each member must have chance or probability of  $1/N$  of being selected into the sample from the population.

**References:**

1. Gun, Gupta and Dasgupta: Basic Statistics
2. N.G. Das: Statistical Methods (Volume I)
3. C R Kothari – Research Methodology: Methods and Techniques, New Age International.
4. B C Tandon – Research Methodology in Social Sciences, Chaitanya Publishing House.