**Eco-Hc-3036: Statistical Methods For Economics**

**Unit:-5 Sampling**

**Class:-First**

Semester:-III(H) Date:-31/08/2022

 Time:- 9:15 am

**Principal Steps in Conducting a Survey:**

1. **Define objective of  survey** :- The objective of the survey has to be clearly defined and well understood by the person planning to conduct it. It is expected from the statistician to be well versed with the issues to be addressed in consultation with the person who wants to get the survey conducted. In complex surveys, sometimes the objective is forgotten and data is collected on those issues which are far away from the objectives.
2. **Decide and choose population to be sampled**.

Based on the objectives of the survey, decide the population from which the information can be obtained. For example, population of farmers is to be sampled for an agricultural survey whereas the population of patients has to be sampled for determining the medical facilities in a hospital.

1. **Decide the Data to be collected**

It is important to decide that which data is relevant for fulfilling the objectives of the survey and to note that no essential data is omitted.   Sometimes too many questions are asked and some

of their outcomes are never utilized.  This lowers the quality of the responses and in turn results

 in lower efficiency in statistical inferences.

1. **Decide the degree of precision required**.

The results of any sample survey are always subjected to some uncertainty. Such uncertainty can be reduced by taking larger samples or using superior instruments. This involves more cost and more time. So it is very important to decide about the required degree of precision in data. This needs to be conveyed to the surveyor also.

1. **Decide the method of measurement**.

The choice of measuring instrument and method to measure the data from the population needs to be specified clearly. For example, the data has to be collected through interview, questionnaire, personal visit, combination of any of these approaches, etc.

The forms in which the data is to be recorded so that the data can be transferred to mechanical equipment for easily creating the data summary etc. is also needed to be prepared accordingly.

1. **Decide the sampling frame**.

The sampling frame has to be clearly specified. The population is divided into sampling units such that the units cover the whole population and every sampling unit is tagged with identification. The list of all sampling units is called the frame. The frame must cover the whole population and the units must not overlap with each other in the sense that every element in the population must belong to one and only one unit. For example, the sampling unit can be an individual member in the family or the whole family.

1. **Decide the scheme of selection of sample**.

The size of the sample needs to be specified for the given sampling plan. This helps in determining and comparing the relative cost and time of different sampling plans. The method and plan adopted for drawing a representative sample should also be detailed.

1. **Conduct the Pre‐test**.

It is advised to try the questionnaire and field methods on a small scale. This may reveal some troubles and problems beforehand which the surveyor may face in field in large scale surveys.

1. **Organization of the field work**

How to conduct the survey, how to handle business administrative issues, providing proper training to surveyors, procedures, plans for handling the non response and missing observations etc. are some of the issues which need to be addressed for organizing the survey work in the fields.

The procedure for early checking of the quality of return should be prescribed. How to handle the situation when the respondent is not available should be clarified.

 After getting the completed questionnaire back, it needs to be edited in the sense to amend the recording errors and delete the erroneous data.

 Different methods of estimation may be available to get the answer of the same query from the same data set. So the data needs to be collected which is compatible with the chosen estimation procedure.

1. **Decide how to present the summary and analysis of data**

The completed surveys work as guide for improved sample surveys in future. They also supply various types of prior information required for using in various statistical tools, e.g., mean, variance, nature of variability, cost involved etc. Any completed sample survey act as potential guide for the surveys to be conducted in the future.

 It is generally seen that the things always do not go in the same way in any complex survey as planned earlier. Such precautions and alerts helps in avoiding the mistakes in the execution of future surveys.