



RANKED SET SAMPLING: AS A COST-EFFECTIVE AND MORE EFFICIENT DATA COLLECTION METHOD

Arun Kumar Sinha*

Dept. of Statistics, Central University of Bihar, Bihar, INDIA - arunkrsinha@yahoo.com

Ranked set sampling (RSS) is a cost-effective sampling technique that induces stratification on the population through rank orders of samples. This, in turn, provides a more structured sample than a simple random sample does with the same sample size. This yields more efficient estimators of some parameters of interest. In this method a fairly large number of randomly identified sampling units are portioned into small subsets of the same size. The units of each subset are ranked separately with respect to the characteristic of interest without using their actual measurements. The measurements of the units with some specified ranks constitute a ranked set sample. In this paper we wish to discuss theory, methods and some recently reported applications of RSS to highlight its advantages. This method could be of some particular interest to those who look for a cost-effective and more efficient data collection technique for sampling and monitoring situations.

Keywords: Order statistics, Concomitant ranking, Relative precision, Relative savings.