

EFFICIENT FAMILY OF EXPONENTIAL AND DUAL ESTIMATORS OF FINITE POPULATION MEAN IN RANKED SET SAMPLING

Nitu Mehta (Ranka)¹ & V. L. Mandowara²

¹*Assistant Statistician, CCPC, Department of Agricultural Economics & Management, Rajasthan College of Agriculture,
Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan, India*

²*Retired Professor, Department of Mathematics & Statistics, University College of Science, M. L. Sukhadia University,
Udaipur, Rajasthan, India*

ABSTRACT

This study proposed improved family of exponential estimators and dual type ratio estimator of finite population mean using some known population parameters of the auxiliary variable in Ranked Set Sampling (RSS). It has been shown that this method is highly beneficial to the estimation based on Simple Random Sampling (SRS). The bias and mean squared error of the proposed estimators with first degree approximation are derived. Theoretically, it is shown that the suggested estimators are more efficient than the estimators in simple random sampling. It is also shown that the suggested dual estimator is more efficient than the usual ratio estimator in Ranked set sampling.

KEYWORDS: *Exponential Estimators, Dual Estimator, Ratio Estimator, Ranked Set Sampling, Population Mean, Auxiliary Variable, Bias, Mean Squared Error*

Article History

Received: 30 Nov 2019 | Revised: 17 Dec 2019 | Accepted: 27 Dec 2019
