

On Improved Estimation of Population Variance in Double Sampling Using Auxiliary Information

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ABSTRACT

For the estimation of finite population variance, a generalized double sampling estimator representing a class of estimators using auxiliary information in the form of mean and variance both is proposed. The expression for bias and mean square error are derived. It is shown that the proposed generalized double sampling estimator has minimum variance in comparison with some of the estimators available in the literature. Efficiency comparison and an empirical study is also included.

Keywords: Auxiliary Information; Bias; Mean Square Error; Taylor's Series Expansion.