

Abstract

In this study, we propose a new estimator for estimating the finite population distribution function under simple random sampling, stratified random sampling, and in the presence of non-response using simple random sampling. The proposed estimator require the supplementary information on the sample distribution function of the auxiliary variable with the sample distribution function of the study variable for estimating the finite population distribution function. A comparative study is conducted to compare, theoretically and numerically, the adapted and proposed distribution function estimators. It is found that the proposed estimator perform efficient than the existing counterparts in terms of MSE and also PREs.