Abstract

This article is intended to investigate the performance of empirical cumulative distribution function based on stratified ranked set sampling (SRSS). The expression for the variance of ecdf is derived along with the optimal allocation with respect to stratification. The properties of the SRSS sample quantiles are discussed. For any fixed set size in the stratified ranked set sampling the strong consistency and the asymptotic normality of the SRSS sample quantiles for large samples are established. A simulation study is designed to compare the efficiency of SRSS relative to other sampling procedure under varying model scenarios.