

Inference for Kumaraswamy Burr Type XII Distribution under Generalized Order Statistics

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SUMMARY

In this article, a methodology for constructing inference based on n selected generalized order statistics from Kumaraswamy Burr Type XII distribution is developed. Bayesian and non-Bayesian approaches are applied to obtain point and interval estimation for the parameters, reliability and hazard rate functions of the Kumaraswamy Burr Type XII distribution. Bayes estimators are derived under the squared error loss function as a symmetric loss function and the linear exponential loss function as an asymmetric loss function. Estimation based on Type II censoring and upper record values are considered as special cases from generalized order statistics. A Monte Carlo simulation study is carried out to investigate the precision of the maximum likelihood and Bayes estimates, based on generalized order statistics, Type II censoring and upper record values. Finally, three real data sets are presented to illustrate the discussed methods.

Keywords and phrases: Kumaraswamy Burr Type XII distribution; generalized order statistics; loss functions; confidence intervals; ordinary order statistics; upper record values.

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