

## SUMMARY

Parameter estimation becomes complicated when censoring is present in the sample. Sometimes it is not possible to give a mathematical expression about estimated value of parameters in Maximum Likelihood (ML) method. In this situation the iteration method is used, to find estimated value of parameters in numeric form. There are several Modified Maximum Likelihood (MML) estimation procedures which provide a mathematical expression about parametric value.

Suresh (2004) used the Taylor expansion series to linearize the intractable term in likelihood equations. In this thesis a simple approximation has been proposed for intractable term, to estimate location and scale parameters of two parameter exponential distribution from doubly type II censored sample. By studying the effect of censored sample in terms of asymptotic variances and MSEs of linear function of order statistics. It is observed that the scale parameter is effected by total censored sample and the location parameter is effected by left censored sample more than the right censored sample.

In empirical study the MML estimators of Suresh (2004), Tiku (1967) and the estimators proposed in this thesis have been compared with ML estimators of Kambo (1978), in terms of asymptotic variances-covariance matrix and MSEs of linear function of order statistics.

In empirical study, It is observed that MML estimators of Suresh (2004) are same while proposed estimators are in close agreement with Kambo's (1978) estimators. For MML estimators of Tiku (1967), the MSE of scale parameter are in close agreement with Kambo's (1978) estimator but the MSE of location parameter cannot exist for  $q_1=0$  in the case of exponential distribution where  $q_1$  is the proportion of left censored sample. For  $q_1>0$  the MSE of location parameter exist but aren't same or close to MSE of Kambo (1978) location estimator.