

# **A Generalized Class of Cost Efficient Estimators of Population Mean in Presence of Non-Response Using Auxiliary Information**

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## **ABSTRACT**

In this paper, we consider the problem of estimating the population mean in presence of non-response using auxiliary information. A generalized class of estimators of population mean is proposed when the population mean of auxiliary variable is not known; its bias and MSE are found. Sub-class of optimum estimators in the sense of having minimum MSE are found and enhancing the practical utility, a sub-class of estimators depending on estimated optimum value based on sample observations is also investigated in the presence of non-response. The expressions of sample size and inverse sub-sample fraction have been worked out by minimizing the cost for given MSE, and further the expressions of sample size and inverse sub-sample fraction have been found out by minimizing the MSE for fixed cost. An empirical study is also carried out in support of the results derived.

**Keywords:** Class of estimators, auxiliary information, non-response, bias, MSE.