

## Some Generalized Multivariate Estimators for Population Mean under Multi Phase Stratified Systematic Sampling

**Authors :** Muqaddas Javed, Muhammad Hanif

**Abstract :** The generalized multivariate ratio and regression type estimators for population mean are suggested under multi-phase stratified systematic sampling (MPSSS) using multi auxiliary information. Estimators are developed under the two different situations of availability of auxiliary information. The expressions of bias and mean square error (MSE) are developed. Special cases of suggested estimators are also discussed and simulation study is conducted to observe the performance of estimators.

**Keywords :** generalized estimators, multi-phase sampling, stratified random sampling, systematic sampling

**Conference Title :** ICSRD 2020 : International Conference on Scientific Research and Development

**Conference Location :** Chicago, United States

**Conference Dates :** December 12-13, 2020