RESEARCH PAPER

Domain studies with imperfect frame in large population

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Abstract : Existence of the frame is pre-requisite for any sample survey or census of a large population. Frames are quite often imperfect due to dynamic nature of sampling units. Frames become incomplete by the time actual survey and enumeration starts which affects the statistical results desired for the target population. In present study imperfection in the frame of large population arising due to qualitative change of units from one class to other have been considered. We have considered incomplete frame assuming the nature of units following dynamic change from class one to other follow a probability distribution function. Suitable estimator for proportion of units belonging to a particular domain and unbiased estimate of target population for a class have been proposed along with its estimate of variance. The estimates are evolved so as to eliminate error caused due to deviation of sampled population from target population. The paper deals with interesting problem arising in survey sampling and is useful in practice.

Key Words : Imperfect frame, Sampled Population, Target population, Out-dated units