

The Bayesian methodology has been widely used in combining information from various databases to produce reliable small area estimates. However, there is no guarantee that, in a given situation, the Bayesian small area estimator will be design-consistent. That is, the Bayes estimates may not converge to the standard survey-weighted reliable direct estimates for areas with adequate sample sizes. In addition, the Bayes estimates typically do not meet the desirable benchmarking criterion. That is, small area Bayes estimates, when suitably aggregated to produce a large area estimate, may not produce a reliable direct design-based estimate of the large area. The issues of design-consistency and benchmarking have received considerable attention in recent years. In this paper, we discuss certain adjustments to the Bayesian methodology so as to attain these two important properties of small area estimators. Using a real finite population and design-based simulations, we compare our proposed Bayesian method with other small area estimation methods.