



Research Paper

Small area estimation techniques in wheat production – An empirical study

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ABSTRACT : The importance of small area statistics in agriculture is becoming more and more important in the context of agro-climatic regional planning process initiated by the Planning Commission, Govt. of India, in the early nineties to enforce the bottom-up planning in the county. In India, the crop production/productivity is being estimated at district level through crop cutting experiments. For planning the development process at taluk level under the present system of Panchayat Raj, we need crop-statistics at taluk level. This necessitates the small area estimates at taluk level or at other small levels. Most of the methods of small area estimation are integral part of the sample survey in which direct or indirect (synthetic) estimators are developed for small areas. However, how to scale down the statistics available at large area to small area is still untouched in the context of small area estimation methods. In the present paper, an effort has been made to develop estimators for crop-production at taluk level using crop-production and other related informations at district level. Exploring the relationship between crop-production (Y) and other related variables (X_i) at district level, weights for X_j at taluk level were worked out. Using these weights, three estimators at block level were developed. Their relative efficiencies were also worked out. An empirical study was carried out for wheat crop in Bagalkot and Dharwad districts. The results of the empirical study were quite encouraging as it tallied very closely with taluk estimate of wheat production.

KEY WORDS : Wheat production, Empirical study, Relative efficacy.

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