

Instability in Indian Crop Production: Its Magnitude and Sources

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I INTRODUCTION

Indian crop production has recorded an impressive rate of growth during the last two decades. At the same time, there have been wide year-to-year fluctuations in the production. These fluctuations in production induce price instability and inefficiency in production and thereby, adversely affect the further growth in production, employment and income distribution (Lipton, 1970). It is, therefore, necessary to take the appropriate policy measures to stabilise the production. A pre-requisite of policy action is the measurement of instability, identification of its sources and means of control. Some studies (Hazell, 1984; Ray, 1983) examining the instability in crop production in India are available. These studies have examined the production instability either for the country as a whole or for the individual states for few crops. Moreover, these studies are silent on the configuration of various components of variation in production in different years and crops grown under diverse agroclimatic conditions. The present study is, therefore, an attempt in the analysis of sources of change in instability in crop production in Indian States over the past several years. The specific objectives of this study are: i) to estimate the variance and other measures of instability in crop production and yield in different states of India during 1950-51 to 1983-84; ii) to examine the sources of variance and changes in the variance of crop production; and iii) to study the effect of BYVs on production variance.

II DATA AND METHODOLOGY

DATA AND MEASUREMENT OF INSTABILITY

The present study is based on state level time-series secondary data on area and yield compiled from various issues of "Estimates of Area and Production of Principal crops in India". Two time periods, viz., 1950-51 to 1964-65 and 1967-68 to 1983-84 were considered for the analysis. The area and yield data were detrended