

Productivity and Efficiency of Wheat Production in India*

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This study applies Data Envelopment Analysis (DEA) approach to estimate Malmquist Productivity Index (MPI) of the wheat production in India from 1981-1982 to 1999-2000. Five major wheat producing states were classified into agriculturally developed and backward ones: Punjab and Haryana as developed and UP, MP and Rajasthan as backward ones. The Malmquist productivity measures were decomposed into two components: technical change index and efficiency change index. The result shows that total factor productivity has risen in both categories of the states. Technical progress has been most significant factor to wheat productivity growth and will remain crucial to productivity growth in the backward states. Low efficiency in these states indicates a great potential to increase productivity through improving technical efficiency.

I Introduction

Indian Agriculture has witnessed tremendous changes during the past four decades following the adoption of Green Revolution technology since mid-1960s. The sources and effects of these technical changes on Indian agricultural productivity have become of considerable interest to many economists. Also the estimates of India's agricultural productivity have been controversial and debatable. Differences in the estimation methods and reliability in the statistics created many debates on the trend of India's agricultural productivity.

Jha and Evenson (1973) estimated the rate of Total Factor Productivity Growth (TFPG) in Indian agriculture as a whole to be 0.8 per cent per year during 1956-1961, a mere 0.3 per cent per year during 1961-1965, but 2.3 per cent during 1965-1971. The jump in the TFPG in the latter period clearly reflects the effect of Green Revolution, whereas Becker *et al.* (1992) found a decline in TFPG in Indian agriculture from an annual rate of 0.2 per cent during 1960-1964 to -0.2 per cent during 1965-

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