PREFACE

In recent years, significant changes have occurred in agricultural technology of the Punjab. The changes broadly consist of biochemical and mechanical innovations. These innovations have ushered in an agricultural transformation giving rise to sizeable increase in farm output and incomes. Simultaneously, apprehensions have been expressed in certain quarters that due to limited resource base the small farmers have not been able to adopt the new technology to the same extent and level as the large farmers; that the relative crop production efficiency of small farmers has deteriorated under the new farm technology; and consequently the benefits of the new technology have been reaped relatively more by the operators of large farms.

The main purpose of this dissertation is to study in detail the relative crop production efficiency of small and large farms at the 1969-70 level of farm technology by analysing farm management data on 351 farms of different sizes spread over the entire Punjab state.1

Starting with a general perspective of agricultural technologies across the world, Chapter I traces the emergence of the new agricultural technology in India and accounts for its expeditious spread in the state of Punjab. The spread

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1 The Sample covered 18 patwar circles from all the 11 districts of the state. A patwar circle is a revenue unit generally comprising 2-3 villages.
of the technological innovations in the Punjab is analysed in reasonable detail both to understand the Punjab's experience of agricultural modernization in relation to the general world experience and to appreciate the ground work done over the years for the big technological changes in mid-sixties. The objective and the scope of the study are spelt out in Chapter II. Chapter III develops the operational framework used in the present study based on the review of the methodologies explored in the past about 20 years. In Chapter IV, the data, the regions and the variables used are discussed. Chapter V sorts out preliminaries for and is prologue to the next three chapters. It examines in brief the operation of exogenous factors such as extension/credit agencies, input/product markets and land tenure system, and in reasonable detail the farm size-wise stock and flow of resource inputs in the three agro-climatic farming regions of the state. In Chapters VI, VII and VIII, empirical results on the relative production efficiency of small, medium and large farms, in terms of wheat, maize and total crop production functions, respectively, are obtained and interpreted. Lastly, in Chapter IX, the summary of empirical findings and a few policy implications are given.