

Relationship between Farm Size, Productivity, Input Demand, and Production Cost

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Since the release of the first Farm Management survey data in the late fifties, probably the single issue most intensively investigated by the Indian economists has been, "the relationship between the farm size and farm productivity." Most of the major works dealing with this topic, published before 1968 have been critically reviewed by Bhagwati and Charkravarty (1969) and those published before 1974 have been discussed by Bharadwaj (1974). This unprecedented interest in the subject is quite natural, because a comparative analysis of the economics of small and large farms has important implications for policy issues like land ceiling and land redistribution.

In brief, these studies indicate that the small farmers produce higher yields, use more human labour, more bullock labour, and more fertilizer. All these studies are based on mixed samples of irrigated, partially irrigated, and unirrigated farms. There is a feeling that irrigation can significantly reduce the productivity differences between the small and large farms (Bharadwaj 1974). But to the best of our knowledge no empirical study has been done to test this hypothesis. Fortunately, we have access to the farm-level data from Haryana collected by the Economic and Statistical Organization of the state for the 1969-70 agricultural year. These data sets contain two separate farm samples. One, a sample of 102 irrigated farms. Two, a sample of 99 unirrigated farms. Therefore, the main objective of this study is to conduct a comparative analysis of both irrigated and unirrigated of small and large farms.

In this paper, we make an attempt to analyse the effect of farm size on productivity, inputs demand, and the cost of production. We classify the two samples of 102 irrigated and 99 unirrigated farms into small and large farms according to four different size criteria. The farms less than and equal to 4.05, 5.06, 6.07, and 8.09 hectares are classified as small farms, while farms greater than 4.05, 5.06, 6.07, and 8.09 hectares are classified as large farms according to size criterion 1, 2, 3, and 4, respectively. The production function estimates of both irrigated and unirrigated small and large farms are presented in section