

## Impact of Irrigation on Cropping Intensity, Cropping Pattern and Productivity Under Tank Commands

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*Providing assured, adequate and timely supplies of (irrigation) water is a sine-qua-non for increasing productivity in tropical agriculture. Irrigation impact has several dimensions. The most important among them are: A major shift in cropping pattern over dry/less water intensive crop pattern to irrigated/high value crops. Increase in the cropping intensity and a considerable improvement in productivity of crops. All these dimensions are affected considerably by the extent of management of irrigation facilities and availability of water for crops. In an irrigation system water availability differs considerably across reaches in the command and between normal and below normal rainfall years. In the latter situation, rich farmers supplement their well water to stabilise the agriculture. The resource-poor farmers usually have to seek the help of common source supply and if it is not fruitful, their crop culture affects adversely. To what extent the crop pattern, cropping intensity along with the institutional and technical factors affect the productivity of farms across reaches and between different types of farmers and between normal and deficit water supply years. This paper discusses these issues in the context of two large multi-village tanks in Tamil Nadu.*

### I Introduction

The importance of irrigation in crop production as well as increasing agricultural productivity has been widely recognised all over the world. It is rightly pointed out by Dhawan (1998) that in the world as a whole in this century irrigated agriculture has been a dominant source of growth of the crop sector, more so of foodgrains production. For the past 30 years, the trend was continued in many regions, including the East Asia and South Asia where the increase in food production is expected to come mostly from irrigated agriculture. Nearly six-tenths of our crop output now originates from irrigated land, although these account for only a little over one-third of our total crop acreage. However, international comparisons reveal a wide gap in India's performance between achievements in output and productivity. While India compares favourably in terms of total output, it stands poorly in terms of yield per hectare. For example, India has 60 million hectares of land under irrigation compared with just 47 million hectares in China, but its foodgrain production is barely 40 per cent of China's output (Kalirajan and Shand, 1997).

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