

Summaries of the Gokhale Institute Studies

Economics of Drip Irrigation: A Comparative Study of Maharashtra and Tamil Nadu

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Introduction

Over-exploitation of water resources due to the inefficient use has caused deep concern during the last two decades. This is common across the sources of irrigation. The dilemma of the situation is that on the one side we have the fast increasing density of wells/canal systems causing stress on water resources and on the other side stands the largely salinated land mass.

The only reason for these two is the inefficiency in use of water for irrigation. Resource literacy, proper pricing policy or legislating access to water are a few methods suggested to control the use rates. On the technology front, however, we have different methods of irrigation which directly control the water delivery system. In the eighth plan a centrally sponsored scheme on 'Use of Plastics' in Agriculture' was launched to promote plastic in agriculture. Drip irrigation method has been one of them. It is also referred to as 'micro irrigation' along with the other such methods like sprinkler irrigation, perforated pipes etc. Initially drip irrigation was used under water stress conditions to vegetable crops and using this Israel could achieve high productivity growth.

Drip irrigation has quite a number of positive aspects which not only cover water saving but also influence the other facets of cultivators calculus. As the water is supplied only to the root zone of the main crop only at required time it almost eliminates weeds and enhances the productivity. It helps in reducing the cost of cultivation on one side by cutting down on cost of weeding, fertilisation, pesticides and by improving the quality of produce on the other. Fertilisers can be supplied along with water (fertigation) thereby reducing the wastage. It is quite efficiently used for wide spaced perennial crops, but in the recent past it is also being used for narrow spaced crops.

Government of India introduced a scheme to promote drip irrigation in the country during 1982-83. Some of the states also followed the cue and introduced a scheme of drip irrigation subsidy. Under the central scheme, the Government of India provided a subsidy of 50 per cent of the cost of the set and a matching contribution from the state government. Of the total amount of subsidy, 75 per cent was targeted to benefit the small and marginal farmers. Government of Maharashtra also introduced a similar scheme from 1986-87 providing for 30 to 50 per cent subsidy on the capital cost. There are a few differences in the design of the schemes between the State and the Central scheme. Over the years Rs. 8371 lakhs have been invested as subsidy towards drip irrigation in Maharashtra.

Objectives and Methodology of the Study

Given the sizeable amount of investment in the drip irrigation and the expected benefits out of the scheme, it becomes necessary to analyse the impact of the technology in differential agro-climatic situations. Agro-Economic Research Centres (AERC) in Maharashtra and Tamil Nadu had conducted two separate studies analysing the performance evaluation of the drip irrigation scheme. These studies focussed on: (i) evaluation of the impact of drip irrigation on production and cost of cultivation of the horticultural crops, (ii) economic viability and performance evaluation of the scheme and (iii) problems of drip irrigation if any.