

Study of economic viability of the micro-irrigation system on sugarcane cultivation

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ABSTRACT

Investigation was carried out during June-September 2005. Twenty five growers were randomly selected from 8 villages of Baramati Tehsil of Pune district in Maharashtra for the study. The data on different aspects of sugarcane cultivation were collected in a specially designed questionnaire during the field visit. In order to arrive at the economic viability of the investment on drip irrigation system, the NPW, IRR and BCR were computed by utilizing the discounted cash flow technique. The results revealed that the NPW of post-drip farm at 15 % discount factor was Rs. 34754/ha. The IRR and BC ratio for the drip irrigation system were worked out to 87 % and 2.08, respectively. As the BC ratio was greater than one it indicates its economic viability.

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Key words : Sugarcane, Drip irrigation, Surface irrigation, Economic viability

Sugarcane is an important cash crop and plays an important role in the country's agriculture and industrial economy. Maharashtra is a leading state in sugarcane cultivation next only to Uttar Pradesh. In the case of Maharashtra the area under sugarcane is only 6 % of the net sown area but about 60% of available water is used for sugarcane crop. Also the productivity has been declining and cultivation of this crop is becoming less economical. The availability of water for irrigation has been declining drastically, while the demand for irrigation water has been growing at a faster rate.

Efficient application of irrigation water is an important factor in obtaining the desired cane and sugar yield per hectare. Sugarcane is a perennial crop and requires application of water throughout its growth period. Drip irrigation is the only means through which efficiency in water management could be achieved. To assess the impact of drip irrigation on sugarcane cultivation a study was conducted in Baramati Tehsil of Pune district with

the following objectives : to assess the benefits of drip irrigation *vis-à-vis* surface flow irrigation on savings in cost of cultivation, to assess the increase in sugarcane yield with drip system, to study the investment cost of drip irrigation system on different farms, to evaluate the economic viability of micro-irrigation system on sugarcane cultivation and problems in the operation of drip irrigation system on sample farm.

METHODOLOGY

Collection of data:

The study was conducted during the period of June – September 2005. The complete list of farmers irrigating sugarcane with drip system in Baramati Taluka was obtained from the Sub-Divisional Agricultural Officer, Baramati. From the list, a sample of 25 farmers was randomly selected for the purpose of study. The data on different aspects of sugarcane cultivation were collected in a specially designed questionnaire during the field visit.

Analysis of data:

The data on land use pattern, type of water source in the farm and its potential, data on sugarcane cultivation and problems faced in operating drip irrigation system for sugarcane etc., are tabulated in a systematic manner for analyzing the various impacts of drip irrigation system on sugarcane cultivation. The charts were prepared from the tabular data wherever necessary for better understanding of the results. In order to arrive at the

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