

ABSTRACT

A STRATEGY FOR IRRIGATION WATER MANAGEMENT
UNDER MAJOR IRRIGATION SYSTEMS-
A MICRO LEVEL STUDY IN TAMIL NADU

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The objective of this study is to develop a methodology for evolving a strategy for effective utilisation of irrigation water from major irrigation systems to increase benefits from irrigation command areas. The methodology has been evolved through a field study of a representative area in the irrigation command of Parambikulam Aliyar Project in Tamil Nadu.

Increasing net income from irrigated agriculture is possible only if effective interaction occurs between the crop and other resource inputs. The methodology developed, ensures the above pre-requisite through identification of

- 1) attitudes of the farmers towards irrigated agriculture and
- 2) the influence of their attitudes in accepting and adopting optimal crop patterns.

Linear Programming technique to evolve optimal crop patterns and Likert's method of Summated Ratings to measure the attitudes of the farmers have been adopted. Item and Factor analyses enabled to identify the Common Factor Dimensions and Specific Attitudes of different category of farmers viz. big, medium and small.

The major findings of the study are as below.

- 1) Benefits from an irrigation command are maximum, only when the entire area is covered with the most suitable crops as per "optimal crop pattern".
- 2) "Assured irrigation water supplies" and "agricultural labour" were identified as the important "critical inputs". There is a need for an in-depth study on selective mechanisation of certain important agricultural operations to overcome the labour shortage.
- 3) Lack of coordination among the farmers affects the effective distribution of water among themselves.
- 4) The outcome of the attitude survey are:
 - i) inadequate water supply and improper water distribution are the highest concern of the farmers
 - ii) farmers are satisfied with the present availability of the various other resource inputs, even though they are inadequate
 - iii) majority of the farmers do not accept lack of night irrigation practice
 - iv) attitudes of different category of farmers (big, medium and small) vary considerably and result in conflicting opinions on certain important aspects of irrigated agriculture.

- 5) Maximising the benefits by interlinking the "optimal crop plans" and the "farmers' attitudes" is possible, only when the field problems experienced by the farmers are solved first, creating a conducive atmosphere for bringing about a change, for increased agricultural production.

The approach developed in this study can be extended not only to other existing irrigation systems but also to all irrigation commands both in progress and to be taken up.