

CHAPTER I

Introduction and Research Methodology

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INTRODUCTION AND RESEARCH METHODOLOGY**1.1 Introduction**

India is a developing country where agriculture is the main occupation of the people in rural area. However, agriculture in India has often tended to be a gamble in the undependable monsoons and lack of irrigation facilities. Despite eight five year plans .Indian farmer is still not freed from the clutches of the vagaries of the monsoon. The indian farmer is compelled to depend on the most irregular and uncertain and consequently undependable monsoon. Hence sustained growth in farm incomes and productivity is absent.

At present agricultural sector employees about 64% of the workforce, contributed 27.4% of GDP and accounts for about 18% share of the value of the country's exports.

The present India's stock of 195 millions tons of foodgrains does not help in providing food for all people in the country - often necessitating imports of foodgrains and edible oil.

It is, therefore, imperative that for improved Agricultural Growth and increased farm productivity irrigation facilities have to be improved. Water Shed Development Schemes, Drip Irrigation, Small Viable irrigation Schemes, are necessary to bring the Dry Land Farming Area under irrigation cover.

1.2 Irrigation in India

An important constituent of the current strategy for raising agricultural production is the increasing reliance on irrigation. The strategies of intensive Agricultural District Programme and the High Yielding Varieties Programme (HYVP) have been introduced. The objective is to raise the yield per hectare of the irrigated land through double and multiple cropping.

⤵ The country's irrigation potential has increased from 22.6 million hectares in pre-plan period (i.e. 1950-51) to 85 million hectares at the end of 1993-94. The progress of irrigation has been quite slow, despite the enormous importance given to it during the five year plans. Irrigation sector continues to be a priority sector for development in the Eight Plan. As a consequence of irrigation, the irrigated area as a percent of net cropped area has gone up from less than 18 percent in 1950-51 to 33 percent in 1990-91. Whereas in 1950-51 area shown more than once was only 8.2 percent of net irrigated area it improved to 34 percent in 1990-91. Area shown more than once is a kind of land augmentation and is, therefore, very crucial in raising agricultural output. ⤴

Unfortunately, the irrigation potential created over the years has not been fully utilised.

At the end of 1993-94 utilisation was 76.3 million hectares against potential of 85.1 million hectares. This leaves a gap of 8.8 million hectares of under utilised potential.

The non-utilisation of the created irrigation potential occurs mainly due to delay in the construction of field channels and drains and in land levelling shaping. Lack of involvement of farmers is also an important constraint in achieving full utilisation of created potential. In this connection, minor irrigation works are of special importance as these are relatively less capital intensive and there is almost no lag between the creation of irrigation potential and its utilisation.

(A centrally sponsored command Area Development Scheme(CAD) has been under implementation since 1974-75 with the basic objective of reducing the gap between potential created and potential utilised. The programme envisages execution of farms development works like construction of field channels, land levelling and shaping implementation of warabandi system for rational supply of water and construction of field drains. In addition the programme also encompasses adaptive trials, demonstration and training of farmers and introduction of suitable cropping patterns.

It has been estimated that India has around 180 million hectares of agricultural land out of which 114 million hectares of land could ultimately be irrigated. The Eighth Plan has projected that by the end of 1996-97 a total of 92 million hectares would be provided with irrigation facilities. Even if this target is realised it will leave still 22 million hectares of potential irrigation for the successive five year plan. In order to meet the challenges of agriculture, we have thus to give maximum priority to the extension of irrigation so that all the available potential is exploited within the shortest possible time keeping in mind of course the need to avoid water logging and salinity.)

Strengthening the irrigation infrastructure is one of the main objectives of the Eighth Five Year Plan. The Eighth plan strategy clearly envisages giving priority to completion of the on-going projects. The other major elements of the strategy include ensuring speedy transition to irrigated agriculture and optimum use of water through the command Area Development (CAD) programme installation of sprinklers and drip irrigation system in water scarce and drought prone areas and encouragement to surface water and lift irrigation.

Soon after independence multi-purpose river valley projects and other dams and canals were regarded as essential for meeting India critical requirements of irrigation for agriculture, electricity for industries and flood control. Accordingly, a heavy investment was made on dams and canals. But these multi-purpose projects have been the cause of some problems. Firstly, it has been observed that, "in the world as a whole, as much land goes out of production owing to water logging and salination every year as is brought under production through new project, secondly, a long gestation period these projects, consequently leads to cost overcum. Thirdly, quite a large area of precious agricultural land is wasted in developing distribution system. Yet another serious problem is the heavy siltation of the reservoirs of major dams and consequent reduction in the storage capacity and life span of many reservoirs. Often panic discharges from these reservoirs have led to destructive flash floods in the valley's down stream. In view of these drawbacks, a re-evaluation of our irrigation policies which give too much emphasis on multi-purpose river valley projects, is called for. The key to better water management lies not in high dams at exorbitant financial and ecological costs, but in minor irrigation which ensures maximum use of ground water and better control over irrigation sources.

Minor irrigation schemes include ground water and surface water schemes. While ground water schemes include dug wells, shallow, tubewells and pumpsets, the surface water schemes include tanks and reservoir diversion schemes, lift irrigation from rivers and streams. These schemes have been accorded special attention under the special foodgrains production programme. At the end of 1993-94, irrigation created and its utilisation through minor irrigation schemes was estimated at 53.2 million hectares and 49.1 million hectares, respectively. Because of shorter gestation lags and lower investment costs, emphasis is laid on creation of minor irrigation schemes covering both surface and ground water.

The use cost of irrigation water is an issue that continues to be debated at the national and inter-state levels. There is an urgent need to reach a consensus on resolving the problem posed by mounting areas and the consequent subsidy. There is a broad consensus that the irrigation rates should at least cover the annual maintenance and operational expenses and some part of the fixed costs, whereas the water rates for surface and ground water need to be rationalised with due regard to the interests of small and marginal farmers, the issue of sound financial restructuring of irrigation projects cannot be evaded indefinitely.

Research Methodology

1.3 Selection of the society

The Shri Kedarling Bairavnath Co-operative Water Supply Society Ltd., Bachani is chosen as a representative sample mainly because it has two lift irrigation schemes and these schemes have brought a structural change in agricultural activities of the member farmers - the benefits of which have to be assessed.

1.4 Objectives

- i) Examine the impact on general land use pattern after the installation of lift irrigation schemes.
- ii) Examine the change in cropping patterns after irrigation.
- iii) The impact of irrigation on small farmers.
- iv) Examine the problems of irrigated farming.
- v) Suggest proper remedies to overcome the problems
- vi) Assess the performance and functioning of a Co-operative Irrigation Society.

1.5 Design of Sample

The present study is a case study of the working and impact of one co-operative lift irrigation society situated in village Bachani, Tal. Karveer, District Kolhapur. The study is divided into two sections for purpose of analysis. The working and functioning of the society is studied based on secondary data available in the Annual Reports and Office Records of the Society. The impact of the Society on member farmers is analysed with help of primary data which was generated through Survey method based on Questionnaire. The co-operative irrigation society at Bachani has total membership of 793 farmers. Out of this total sample size 10 percent of farmers are chosen for survey (80 farmers).

The sample size of 80 farmers was chosen randomly and for this random sampling method was used to choose the sample size.

Detailed Questionnaire was framed, translated into Marathi and after testing of the Questionnaire, it was circulated amongst the selected farmers. In addition interview method was also followed and individual farmers, Chairman and Secretaries (Past and present) of the Society, and concerned government servants were interviewed. Primary data thus collected was tabulated and interpreted with statistical tools like Percentage, Growth Rate, Ratio analysis.

1.6 Chapter Scheme of the Study

The study is divided into the following Chapters.

Chapter I Introduction and Research Methodology.

Chapter II Brief Profile of the Cooperative Movement in Maharashtra, Kolhapur and Bachani Village.

Chapter III Analysis of the Working of Shri Kedarling Bhairwanath Cooperative Water Supply Society Ltd., Bachani.

Chapter IV Impact Analysis.

Chapter V Conclusions and Suggestions.