ABSTRACT

Irrigation is an important input to increase agricultural production to keep pace with the food requirements of the ever increasing population. For agricultural, economic and social sustainability in the canal command area, it is important to promote efficient land use and water resources through better management of natural resources. Due to canal irrigation facility the agricultural practices and economic conditions of command area shows positive changes. Benefited farmers change their views towards traditional farming. The relation between agriculture and economic development, In view of this, the present study undertaken i) to study the agricultural development in Kukadi command area of western Maharashtra. ii) To study of Kukadi canal irrigation project. iii) To study of the farmers in kukadi canal command area. iv) to study the impact of canal irrigation on cropping patterns and v) to study the role of agriculture in economic development.

The chapter first tries to introduce importance of agriculture and irrigation in India. The chapter examines the geographical aspects of the study area. There are parts of Pune, Ahmednagar and Solapur districts of Western Maharashtra come under Kukadi canal irrigation project. in this Five tahsils i.e. Junner, Parner, Shrigonda, Karjat and Karmala are benefited region. Through this total 96,396 hectares area of these five tahsils are irrigated. The chapter tries to make us aware of selected area very honestly and hope that gives a useful resume of Kukadi canal command area what is to follow.

The second chapter deals with the various works related to irrigation and agricultural practices. Here discussed different articles published in referred journals, by Irshad M., Kulkarni S.Y., M. Ramasundaram, Shinde S.N. Sujatha S.A and others critically reviewed. Their work helped to analysis of present study. The work sheds light on cropping patterns, irrigation system, water users associations, canal irrigation and its impact on agriculture. This subject has acquired multidisciplinary dimensions.
So in present chapter, certain selected studies had been reviewed here to trace out the possible areas of research. It will be helpful to analyze successive chapters in relation with canal irrigation.

The third chapter examines the history of canal irrigation, background of Kukadi Canal Irrigation Project, salient features of the project, necessity of Kukadi project, canals of kukadi project, irrigation capacity of kukadi project and functioning of kukadi canal irrigation department. The total projected irrigation capacity of kukadi project is about an area of 156278 hectares. This includes the area of Pune, Ahmednagar and Solapur Districts. The main project is located in Pune district and most of the area comes under irrigation in Ahmednagar district that is about 75346 hectares. The study explores the inevitable introduction of Kukadi canal irrigation project.

The chapter fourth explore, that the selection of research methodology for present study and sampling methods. Stratified random sampling method is used for sampling of benefited farmers in command area. The various statistical methods are used in the present study. For showing crop combination regions in kukadi command area here used Weavers method. Agricultural efficiency in study area calculated with the help of Bhatia’s method. Levels of agricultural development and impact of irrigation on economic development discussed with the help of Kendall’s Ranking Co-efficient method. These various methods are important and helpful to analyze the collected data.

The fifth chapter engages with the analysis of the changing cropping patterns, changes in land use patterns, levels of agricultural development and impact of canal irrigation on economic changes in Kukadi command area.

Various statistical methods as well as tables, graphs and maps have been sheds light on realistic picture of agricultural and economic changes in study area. The present study highlights that, in 1990-91 eight crops combination is dominant in command area while in 2010-11 the five crop combination is found in Junner and Shrigonda tahsils.
There also observed that largest area appears in the low crop diversification in 1990-91 (53.93 percent) while in 2010-11 largest area in the category of moderate crop diversification (44.21 percent). Before irrigation farmers were using traditional farming methods, but now they turn towards modern farming methods after irrigation. The economic indicator shows that the positive change occurs in the study area after kukadi canal irrigation.

The final chapter examine that the Kukadi canal irrigation Project plays and vital role in the development of agriculture in command area. The present study highlight the major agricultural and economic changes occurs due to canal irrigation in the study area. There have been cultivated crops like Jowar, Bajra, and Pulses before canal irrigation, but after the irrigation the cropping Pattern changed in to Sugarcane, Fodder, fruits and vegetables and wheat crops. Due to irrigation facility the attitude of farmers in command area are turned toward the farming of horticulture and floriculture. The irrigated area is increased in five tahsils in 2010-11 as compare to 1990-91. The percentage of cash crops also increased. It is clearly indicates, that the kukadi canal irrigation has inspired the agricultural development of the study area and ultimately it was an inspiration in financial betterment of the farmers.

All the preceding chapters of this thesis deals with Kukadi canal irrigation and agricultural changes in command area. Through this research work, the aims are prove that the canal irrigation effects on the agricultural and economic development in five tahsils.