

CHAPTER - VI

CONCLUSION

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Maharashtra is characterised by variations in the physiographic setting which in turn has given rise to variation in water resources and specific types of irrigation. Based on natural drainage the state is divided into basins like Krishna, Bhima, Godavari, Wardha-Vainganga, Tapi-Purna, and Konkan rivers. The quantity of water in these rivers is influenced by the intensity of rainfall and its variability.

The irrigation facilities (sourcewise) developed in state indicate the dominance of particular source in a particular region. The central parts of Maharashtra have dominance of well irrigation, the eastern parts i.e. Chandrapur, Gadchiroli and Bhandara districts are endowed by tank irrigation, while lift irrigation is widespread in south western part of Maharashtra. The canal irrigation has developed only along major river basins. Out of the total irrigated area, well irrigation occupies about 43.20% followed by canal 14.27% and tank irrigation 10.18%. Lift irrigation occupies only 7.68% and other sources 24.67% of the total irrigated area in the state. Recently percolation tanks have become widespread in parts of drought prone areas as a measure to enrich groundwater and augment well irrigation.

Two different ways can be adopted to increase the irrigation facilities in the state. Firstly, by improving the existing facilities through reduction of water losses by adopting the new methods of irrigations and by reducing evaporation losses. Secondly, for extension of irrigation facilities various means such as, the

conjunctive use of surface and groundwater, recharge of ground water for dug wells by constructing contour bunding, nalabunding, percolation tank, afforestation etc. need be practised. Such measures will help to increase the area under irrigation and to remove the regional imbalances in the development of irrigation facilities in the state.

A study of change in cropping pattern reveals that irrigation has played an important role in the cropping pattern of the state. The cultivated land occupies more than 50% of the geographical area in the central part and about 72% area in the eastern and less than 50% in the western part. The entire cropping pattern appears to be largely controlled by agro-climatic conditions, as such regional disparities have occurred within the state. Being drought-resistant, jowar, bajara and gram cultivation is dominant to the east of Sahyadrian ranges, particularly in Nasik, Pune, Ahmednagar and Satara districts. Whereas rice and fodder cultivation prevail in the eastern and western heavy rainfall zone particularly in Chandrapur, Gadchiroli, Bhandara, Raigad and Ratnagiri districts.

Consequent to expansion of irrigation as well as improvements in its methods and different types of techniques, a new dimension in the pattern of irrigated crops has emerged being dominated by wheat, sugarcane, jowar in the state. However, the degree of concentration depends on the sources of irrigation. In lift irrigated areas where water is available throughout the year there is dominance of sugarcane. Whereas well and tank irrigation, which provide water seasonally,

has a preponderance of jowar, wheat, cotton and rice. The private canals can provide water only for kharif crop of wheat and government canals, on the contrary, supply irrigation water throughout the year and hence it has a domination of wheat, jowar and sugarcane. Overall change in agricultural landuse seems to be more notable in the north central zone, moderate in the central and western zone and less so in the west central zone and correspond to the development of irrigation facilities. The shift from subsistence farming to commercial one is observed in the central zone where lift and canal irrigation are developed, while intra-cereal shift from inferior to superior cropping is noted in the well irrigation region. Elsewhere in general, the increased facilities of irrigation are largely shared by cash crops like sugarcane, cotton, groundnuts, etc.

The agricultural productivity is an interplay of physical, social, economic and agricultural attributes. As such, three zones can be identified on the basis of agricultural productivity. First, the central zone which comprises the districts of Kolhapur, Satara, Sangli, Pune and Wardha having high productivity of agriculture. This can be attributed to favourable environmental and cultural factors in the form of fertile deep alluvial soils, well developed net-work of lift and canal irrigation, substantial application of fertilizers, use of improved techniques and implements, constructive role of sugar co-operatives, healthy atmosphere created by co-operative sector and aboveall the farmer's awareness to modern techniques are some of the other contributory factors for high

productivity in this zone. Second, the adjacent districts of the above zone and plateau region have moderate agricultural productivity, and in this part the cotton, groundnut, jowar, bajara, oil seeds etc. crops are taken. Third, the eastern and western hilly part of this region has low productivity. It is due to the poor soil condition rugged topography, lack of water for irrigation, limited use of modern techniques. This zone is therefore regarded as 'Weaker' part of the state as far as agricultural productivity is concerned.

Expansion of irrigation facilities have given rise to some problems in irrigated farming areas. Some of them are inadequate infrastructural facilities, excessive doses of fertilizers and irrigation water, development of saline and alkaline soil, water logged area, etc. For solving some of these problems like saline and alkaline soils, the state government has opened a separate 'Irrigation Research Centre' and attempts have been made, both in public and private sectors, to bring the water-logged and salt affected areas under cultivation. /