CHAPTER IX
CONCLUSION AND SUGGESTIONS
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The economic analysis with statistical tool used in the preceding pages provides a complete evaluation of resource use productivity in crop enterprises, on the farms of different size group on secured and insecure irrigated farms for valid conclusions and offering realistic suggestion. The finding in this study have implication for the decision maker to adopt such measures as are brought forth from the conclusions of this enquiry in the direction of maximising the returns on the sample farms of different size groups under secured and insecure irrigated farms.

The study revealed that about 66 per cent of the total irrigated area of the selected district was under canal during the period of study which is not a regular and timely source of irrigation. The assured source of irrigation is considered to be tubewells and pumping sets which in turn occupied only about 25 per cent in the district. Similarly, about 77 per cent and 21 per cent and 75 per cent and 19 per cent of the total irrigated area of the Mahewa and Ajitmal Block was under canals and tubewells and pumping sets respectively. This clearly shows that there is a dearth of assured irrigation in the sample tract which adversely affect the development of agriculture. Per hectare utilization of fertilizer in the selected blocks was observed to be low with an average cropping intensity of 17% per cent and 141 per cent on the sample farm of secured and insecure irrigated farms respectively. It is therefore, suggested that concerned Govt. authorities should frame a sound policy for the development of minor irrigation projects in the district in order to make the supply of irrigation
water as and when required by the farmers for maximising the farm returns. Further, the farmers of the sample tract, particularly of medium size group, are advised to develop their own irrigation facilities by installing tubewells and pumping sets in order to adopt multiple cropping and for developing a well balanced and remunerative cropping pattern by shifting the area from less remunerative crops to the commercial and more profitable crops like potato, high yielding varieties of wheat and paddy, pea as these crops are more profitable than other crops in the sample area. This will result in intensive use of production oriented inputs like chemical fertilizer, high yielding variety of seed and plant protection chemicals which in turn will not only raise the productivity of these input and maximise the farm returns of the farmers but also be in the interest of the country as a whole.

The average intensity of cropping in case of secured irrigation worked out to 171 per cent as against to 144 per cent in case of insecurely irrigated, varied inversely with the size of farms. In Kharif season, bajra and paddy covered the major portion of the cultivated area on both secured and insecurely irrigated farms, while in Rabi season, wheat, mustard, and pea covered the major portion respectively on both secured and insecurely irrigated farms. The total food crops accounted for about 77 per cent of the total cultivated area and non-food crops for about 23 per cent in case of secured irrigation as against to 80 per cent for food crops and 20 per cent for non-food crops in case of insecurely irrigated. The major portion of the cultivated area was covered by food crops only.
The results of regression equations developed at optimum levels of variable inputs under capital constraints highlighted the facts that the farm returns on the farms of almost all the size groups and farm as a whole can be maximised from their original levels being Rs. 5372.00, Rs. 4344.00, Rs. 3528.50, Rs. 2852.00, Rs. 3008.00 and Rs. 3820.00 to Rs. 7153.00, Rs. 6315.39, Rs. 5611.77, Rs. 3854.78, Rs. 4057.89 and Rs. 5513.15 on the farms below 1 hectare, 1 - 2 hectare, 2 - 4 hectare, 4 - 6 hectare, 6 hectare and above 6 hectare size groups and farm as a whole respectively under secured irrigation condition and from Rs. 3796.00 to Rs. 4536.28 on the farm as a whole under insecure irrigation condition. Thus, it can be concluded that the farm returns can be maximised on the farms simply by reallocation of farm resources and shifting the funds from low marginal productivity input variables in favour of input variables having higher marginal value productivity upto the extent where the marginal value productivity of each variable input becomes equal.

**Suggestion and Recommendations:**

The study of cost and return and productivity can be useful extended to cover not only two levels of technologies but a range of technologies indicative of the various levels of technological sophistication. Further, it would not be useful to define the optimum size in a variety of ways taking the motive and goal of Indian farmers into considerations.
The realistic suggestions and recommendations based on the finding of the present study in the reference to lack of assured irrigation facilities, low cropping intensity along with low fertilizer consumption per hectare, low contribution of cash crops in the cropping pattern to the total value of output, measures of the farm profits of the farms, higher productivity of land, labour and capital of wheat, paddy and mustard in terms of land, productivity ratio, return per day of family labour and return to capital investment as compared to other crops of the sample farms.

1. The concerned Govt. authorities should frame a sound policy for the development of minor irrigation projects in the district in order to make regular and timely supply of irrigation water for maximising the farm returns. The farmers of the sample tract, particularly of medium size groups, are advised to develop their own irrigation facilities by installing tubewells and pumping sets in order to adopt multiple cropping and for developing a well balanced and remunerative cropping pattern which, in turn, will not only maximise the farm returns but also be in the interest of the country as a whole.

2. The concerned Govt. authorities should frame policies to frame policies in respect of land utilization in the light of productivity of farm resources, management capacity of the farmer and maximum return on the farms. The size of farm may not too small or two large in view of the fact that farm returns and productivity of various inputs are higher on the medium size (2 - 4 hectare) as compared to those on the farm of small and large size.
3. The farmers of the sample tract should give more emphasis and due consideration to intensity the area under cash crops in order to maximise the farm return as a whole.

4. The farmers, particularly of small size group, are advised to keep high yielding breed of she-buffaloes which will not only be a supplement enterprise to increase the farm income but also provides an opportunity for more employment to family labour and requirement of organic manures of the farms.

5. In order to supplement their income, they should adopt subsidiary occupation like poultry, piggery-farming, beekeeping, rape making, basket making during the spare time in order to utilize family surplus labour.

6. As they have very small size of farms, it is very necessary for them to cultivate the available land intensively for self-sufficiency. Along with food crops they must grow cash crops to attain the maximum income on their farms.

7. The Government and Bank authorities should come forward for advancing easy and cheap loan along with subsidy to small farmers in order to bring them above poverty line and to achieve equal social status in the society.

8. In view of higher optimum levels of manure-fertilizer and irrigation and higher existing levels of human and bullock labour and seed on the farms of almost all size groups and farm as a whole, it is suggested to the farmers of the sample area to shift a part of their available funds used for hired human labour and bullock labour to intensify the use of manure-fertilizer and irrigation under capital constraint for maximization of farm returns. The farmers of
the sample area are further advised to allocate various farm resource inputs among various crop enterprises under various size groups in such a way that the total of each resource input per hectare may come up to the extent of optimum level of each size group in order to maximise the farm returns on the farms of respective size groups.

The surplus of family human labour may be used in complementary or supplementary enterprises like dairy, poultry farming and agro-based cottage small scale industries.

9. Developments efforts in the sample tract should be oriented towards mini-sugar plant, and other agro-based industries, so that the excess human labour force of the region can be shifted to such industries. Hence, it is suggested that the family labour should be provided off farm employment opportunities so that it may decrease the cost of family labour on the farms on the one hand and supplement the farmer's income, on the other.

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