CHAPTER -6
SUMMARY, CONCLUSION AND SUGGESTIONS

SUMMARY AND CONCLUSION

The Linear Programming Problem used for our study is simple one and is based particularly on the constraints viz. soil, water availability by various sources during kharif and Rabi, food and fodder demand constraints used therein. Optimization function being on value added and on employment generation suffers from some of the limitations occurred therein.

Over entire crop cycle it has not been attempted for optimization. From the soil science only soil types of five different categories have been considered subject to their restrictions. Further it is presumed that soil composition used therein holds good for recommended cropping pattern. Model represents the optimization of the entire district as it is with planner’s point of view as they try to optimize the production of the regional aggregate. Parameters used therein may have different values for the comparison purposes, which may remain valid. Result for optimization depends on the parameter used in the function and size of the resources. But it cannot be done due to limitation of time and individual efforts which goes in a long way to solve the problems in the fields of agricultural planning.

Secondly parallel study for a period of minimum year is considered which will help in depth to uncover various parts of present study. In view of the above it will not give a most ideal cropping pattern accurately to the pattern accurately to the last hectare of land.
The existing cropping Pattern projects that the District level planning having lower income and less employment generation in the district. It is therefore, suggested that change in the present cropping pattern as has been outlined would be giving better results. The findings of the present study may be proved to be useful to the policy makers, administrators, research scientists and the common farmer in most of the ways.

Further scope for research can be understood from the inherent limitations of the model itself. To overcome these limitations further research and development in the model with the adoption of rational crops system may be included. Adopting more Crops activities inclusive of livestock, forest Horticultural crops etc can refine the model.

After going through the Literature nowadays available on the various techniques of Operations Research by way of the Research articles recently published books one will feel strongly that there is ample scope for the development of various types of new techniques of Operations Research in the area of Social Engineering Biological. Physical and other allied Sciences. Herein firstly the various types of definitions that are required in our subsequent discussions are given along with the constraints if any needed there. From the last three decades or so it has been recognized that the subject of operational research as a discipline and its mastery is fundamental and crucial to the success of many projects of Engineering and further that is amenable to the scientific treatment and its presentation. Dijkstra, Hoarse and few others have focused their attention on the aspects of composition and analysis of various types of programs on the structure of algorithms that are represented by the program texts through their research articles in International journals. Secondly on account of rapid development in science technology and Engineering and due to population and Industrial
growth big cities are having increasing demands for the newly established operation Research computer oriented scientific tools.

Non-availability of refined basic data needed for the applications of the technical tools have become one of the major obstacles and in view of this it has been suggested to establish a research and development wing at regional level. In the formation of the objective function in the planning process one should take into consideration all the constraints of the problem values and goals to be attained by the unit of the planning. Factories must have independent units, which will be smoothly systematically, scientifically and effectively identify the exact costs incurred on account of the factories production at the various levels of the processes. Ana the objectives so attained if do not reflects the aspirations and values of the people than the optimum solution plans worked out may not be acceptable for whom that was meant. Application of L-P-P will be helpful under these conditions. This model applied is very simple. However on account of its limitations one cannot say that the results are ideal one but it can reveal the salient features and the broad dimensions of the ideal land use pattern One can also show the Graphical representation of the data and one can arrive at the decision.

On account of less number of iterations and its intuitive plausibility in a wide variety of circumstances this newly developed techniques has been attributed by many. Optimum solution obtained by using simplex method may be affected by several factors such as influential observation errors of measurement in the dependent and independent variables, availability of prior information etc. Its application for planning will reduce the regional and intercrop disparities, instability and also the unbalances. Inefficient utilization and low productivity gives set back to the
development planning. As such problems of unemployment poverty and the stagnant economy at large can be solved by the optimization of production with the available resources. Lastly new ideas and the results are summarized.

It contributes some L-P-models having wider applications in science Engineering and Technology, Neuro Physiological systems etc. further it has vital influence in approximating the L-P-model with accurate predictions.
It will be possible to maximize the net return by making suitable allotment of the area under certain crops. Net benefit if maximized gives an increase of 48.69% in net benefit approximately. Maximization of employment potential unto certain limit will also increase in net benefit up to 16% Rabi season crops give large potential of employment than Kharif season. Following optimum crop pattern can solve problems of unemployment in rural area. The Plan can be accepted as per the objective function of the planning in order to increase the net output or the increase the employment opportunities.

In profit maximization cropping pattern total expenditure is of 20.32% has been observed and 3.24% in employment maximization cropping pattern. The optimal cropping pattern will be requiring more expenditure than the existing cropping pattern. Along with the employment maximization cropping pattern gives in increase of 19.26% Requirement of Irrigated crop will be more than the unirrigated crop.

In Rabi season the coarse shallow type soil should be kept fallow from employment maximization point of view. According to employment maximization cropping pattern Kharif land is fully utilized whereas deep black and medium soil is fully utilized during Kharif and Rabi season. Wastage of water during Kharif and Rabi season from profit maximization point of view is nil but from the employment maximization point of view full utilization of water is made only in Kharif season and there will be saving of approximately 2209 hectare meters of water in Rabi season.
It has been observed that for profit maximization cropping pattern more water than the employment maximization is required because herein we have to give preference to cash crop which needs more water e.g. Sugarcane Crop. Etc.

There is very little scope to improve or to alter the paddy crop area because it requires well-drained and continuous flow of water.

Bajari is having prime importance in the existing cropping pattern under irrigated condition. The highest percent area was observed in law land soil. Amongst pulses Tur is important cash in existing cropping pattern under rainfed and irrigated conditions. Major portion cultivated on medium soil type This plan recommends for the cultivation of Tur is rainfed conditions.

Maize is one of the veracious fodder copper crop which can be cultivated under both the condition of rainfed and Irrigated but this crop will not be finding any place in the optimization plans either I and or II.

On medium type of soil the mug and udid are cultivated purely in rainfed condition wherein it is interesting to note that in optimality of the plan the area under Mug and Udid increases substantially. Improved varieties of Mug and Udid has encouraged in both the cropping patterns. In the optimal cropping pattern plan the area of Matki crop however is not included.

Amongst the cash crops sugarcane is occupying the maximum area. Here it is interesting to note that for profit maximization point of vies we have to increase existing area and for employment point of view there is no scope for increasing the existing area.

Considering the objective of profit maximization cotton crop has no scope but if we consider the employment generation it is having much
scope as it creates more employment to the rural people than income. Very little area is under chilies and form profit maximization point of view chillies cannot be considered as recommended crop but from employment point of view this crop can be preferred.

In the net benefit and employment maximization, this model will not have any scope for sunflower and linseed. However other oilseeds will have some area in optimal crop plan. In optimal plan Kharif crop in the existing cropping pattern like Fodder crop vegetable and other types of cereals are not included. Rabi Jawar is one of the important crop grow up in the district. It occupies. Approximately 65.82% area under rainfed and about 10-16% are under irrigated condition.

However only Hybrid Jowar is introduced in optimal plans. Secondly in order to meet food requirement hybrid jowar should be grown from the profit maximization point of view but from employment point of view there is no drastic decrease.

Wheat crop is grown in Rabi season under rainfed and Irrigated condition in the ratio 2.6. But from the profit maximization one variety occupies 12.02% area under irrigated conditions but from the employment maximization another improved variety occupies 9.56% area in rainfed condition. This shows that wheat crop is one of the important crops from farmer’s point of view and it should be grown on irrigated condition to increase the profit and then go for rainfed condition for the maximization employment.

Gram Occupied 4.701% area out of which 2.95% under rainfed and 1.751% under irrigated condition.

Safflower has occupied the prime position in oilseed crop, which is 8.796% in the rainfed condition in Rabi Season. But from the existing
cropping pattern safflower and sunflower crops are advisable and as such not encouraged in the cropping plans of profit maximization and employment maximization.

In the existing cropping plan 3.16% area occupied by fodder crop is not a profitable crop but for meeting the fodder requirement of animals optimal plan is reserved under rainfed condition and 0.553% area to the tune of 2.323% and vegetable crop occupies an area up to 0.016% under Irrigated condition. However to generate more employment this crop is an advisable crop.

The numbers of crop activities suggested under the optimal crop plan are slightly less than those in the existing pattern, which implies that farmers should tend their attention towards the specialization rather than diversification.