CHAPTER VIII

SUMMARY AND CONCLUSIONS

8.1 INTRODUCTION

Consistent with the objectives of this research study set out in chapter I, this chapter provides a brief summary and conclusions of the research study for policy considerations of the marketing executives in the fertilizer industry, Administrators/policy makers in the state Governments and GOI, as also the executives of the infrastructural service industry such as the warehousing corporations, cooperative marketers, truckers and communications and media experts etc;

8.2 RESULTS AND FINDINGS

1. The fertilizer distribution plans can be drawn up as illustrated by the optimization model which would not only minimize the cost of transportation but reduce the other marketing costs (Storage, Promotion, inventory holding, marketing overheads) significantly. This model can be adopted for serving the dealers by linking dealer outlets to appropriate warehouses.

2. Fertilizer sales forecasting system has to be streamlined.

The state governments can adopt the time series model for developing the requirement plans at district level rather than the state as a whole. Linear time series analysis provides a good fit for short term forecasting (one year or Season to season). A five year moving data takes in to consideration the recent trends in
consumption compared to increasing the data by adding earlier years as practiced by Dept./manufacturers. For this purpose the data base and the MIS must be suitably modified. The fertilizer manufacturers can use this model for drawing up warehouse wise demand plans which will become a more effective base for Logistics management.

3. The suggested inventory control model can be adopted by manufacturers for replenishment of stocks and periodically carrying out an A B C analysis for improved service and cost control. As discussed in the research SQC technique can also be adopted for inventory control at warehouse/stock points.

4. Decontrol & withdrawal of subsidy on phosphate & potash must be taken as realities since it has stayed for 18 years. The farmers' survey has revealed that the farmers are aware of the subsidy component and the possibility of the withdrawal of subsidy even on urea. In the fertilizer marketing system suitable marketing strategies are to be evolved to revitalize the system to adjust to the new and challenging environment. Marketing Research cells must be created as an integral part of marketing system for evaluation and monitoring the impact of programs, strategies and to understand the changing needs and expectations of fertilizer dealers and farmers. This is based on the feedback received from the farmers survey.

5. It should be anticipated that the subsidy on nitrogen would also be withdrawn. The fertilizer marketing system should take a total and integrated approach in developing their programs and strategies rather than developing a segmented approach for controlled and decontrolled products. Increased price of urea by 10-15% would enable overcome the imbalances in the use of NPK.
6. The regression analysis between prices and fertilizer consumption developed and analyzed in this research has revealed a low level relationship with R squared value less than 0.28. This indicates that consumption would not be affected if prices increase provided the weather conditions and price ratios are favorable.

Farmers do not resist price increases if it is in tune with the inflation rates and procurement prices will support the economics of fertilizer use.

The field study has provided the feedback that non-price factors are equally important for fertilizer consumption.

Fertilizer marketing system should give more weightage for non-price factors such as improving dealer net work, providing better irrigation facilities, making the inputs (Seeds, Fertilizers, Pesticides, credit) available on time. The field survey indicated these as the factors influencing the consumption of fertilizers.

7. Up till now, in the fertilizer marketing system, the emphasis had been on distribution, the same has to be spread for all aspects of marketing covering all the 4Ps of Marketing Management. The analysis on the elements of marketing expenses reveal that changes have been in respect of margins, discounts, transportation and in respect of promotion, soil testing services, new product developments and not on non-price factors and Marketing Research efforts. For meeting the challenges caused by the new environment and to get ready to the task of marketing over 20 million tonnes of nutrients and transporting, storing, handling, inventory management of 42 million tonnes of fertilizer material, more efficient management of marketing mix is required..
8. The importance of credit in fertilizer consumption has been brought out both in the field study and on the review of literature on studies on credit. The research has brought out that usage rate of farmers with holding less than 2 hect is higher at an average level of 86 kg/hect compared to 56 kg by farmers holding more than 2 hect. The requirement of production credit is predominantly by farmers of dry land and these are small and marginal farmers. Utilization of the credit facility by small farmers is low due to high rates of interest and the delay in processing the credit. Credit holds the key for stimulating consumption.

9. Logistics is one of the vital areas of marketing and also the major cost area. Transportation cost alone constitutes over 40% of the total marketing cost. By removing the various irrationalities in the system both at micro and macro levels, there is scope for reducing the logistics cost. The other elements of marketing; promotion/extension, modification of product range and mix have seldom taken place during the last four decades of the fertilizer marketing efforts in India.

The farmers survey has revealed that the retail net work is not adequate and coop. service is not up to their expectations.

The railways which were accounting for about 94% of total fertilizer movement during 71-72, has steeply come down to 74% in 92-93, as per the analysis of the research, the quantity handled may further go down in the future if timely actions are provided by making available closed wagons for movement of fertilizer products, improving rake handling facilities at stations, providing in transit storage facilities, offering services for secondary transportation from rail head to warehouses at the receiving end and from fertilizer plants to rail head at the despatching point. Further railways should adopt a
marketing approach. From the point of energy required for movement of fertilizers it is economical to maximize movement by rail.

For bulk handling of fertilizers to large consumers such as plantations, sugar factories, fertilizer mixing units must be encouraged. Container services must be used for such bulk movements. This would not only speed up the movements but save the cost of bagging, handling etc;

10. Expenses on promotion and extension should be taken as investment in marketing, this would in the long run result in reducing the unit cost of marketing, by increasing the fertilizer use efficiency, increased consumer base, turnover.

The farmers' survey has given the feedback that the farmers meetings arranged by manufacturers are not need based and effective.

11. Although there has been a significant improvement in the retail outlets (2.33 Lakh as of March 91) it has not been adequate to meet the growing consumption of fertilizer. Most of these outlets are located on the rail/road heads. There is heavy concentration of retail outlets on big towns the net work in villages, remote places and hilly regions are not adequate. The fertilizer salesmen should identify potential consuming points and encourage farmers and moneylender to take up fertilizer dealership. On an average farmers have to travel 15 kms to get their requirement of fertilizers and other inputs. This should be reduced to a maximum of five kms. Mobile vans carrying fertilizers to villages must be arranged by big wholesalers in towns. The vans could visit the
villages on specified days during the seasons for selling the requirements.

12. There is an urgent need to strengthen the cooperative network by inducing marketing management concepts to the system and further developing and utilizing the infrastructure for reaching the fertilizer in the interior and inaccessible areas. The cooperatives have the required network and infrastructural facilities for serving the remote villages and to tap the potential.

13. A review of the utilization of soil testing facilities available with the manufacturing units and Dept. of Agriculture and also field study feedback indicate that facilities are grossly under utilized. These are capital intensive operations meant to increase the awareness to balanced use of fertilizers. Aggressive marketing efforts are needed to effectively marketing this concept through better utilization of this important facility. The farmers survey reveals that such facilities are not accessible to them. Utilization of the facility must be promoted.

14. Marketing Zones to be rationalized with a view to reduce the lead, The system of allocation of nitrogen (which is under control) under ECA must be streamlined; State Department of agriculture must develop realistic requirement forecast for the seasons based on quantitative techniques as given in the report and closely monitor the performances of manufacturers. The operating territory must be identified based on least aggregate cost utilizing the L.P. model as discussed in the report.

15. Efforts should be made to reduce the overall marketing costs without compromising the quality of service to the farmer.
16. The product range and line have to be streamlined by minimizing them and also making them flexible from the farmers' point of view. It should be examined whether DAP, UREA, MOP could meet the requirement of entire range of crops and soil conditions. Only the highest analysis products must be produced as this would reduce the transportation, warehousing and handling costs. The farmers survey has revealed that the current multiple product ranges and promotion of different products for the same crop, by several manufacturers have created confusion and misunderstanding.

17. Fertilizer is largely confined to irrigated crops while irrigation is available only to 27% of the cultivable land. The cost benefit ratio of fertilizer use in irrigated land is low but very high in dry land areas. Aggressive marketing is needed for promoting fertilizer to rainfed areas. For this infrastructural facilities (retail outlets, storage, credit etc) must be created. Incentives must be provided for this purpose, Farmers cultivating essentially in non-irrigated tracks must be regarded as a separate segment of farmers and appropriate strategies developed to tap the vast potential.

18. Separate marketing strategies to be developed to serve plantations and develop the potential and similarly for sugar factories, Mixing units, farmers with large holdings as those belong to separate target groups and different decision making behaviour.

19. For increasing the fertilizer consumption non-price factors must be considered; strengthening the infrastructure (retail outlets, Storage, etc). Economics of use of balanced fertilizers, even in the context of increased prices must be emphasized, through demonstration, effective communication.
20. The fertilizer dealer is not adequately motivated. In many locations dealers report that fertilizer business has not been viable and that fertilizer salesmen take care of the needs and requirements of big dealers and farmers with large holdings. Strategies to be developed to motivate the dealers through training, effective servicing,

21. Government at the state level and the center as also the manufacturers must take up programs to provide alternative income generating sources such as poultry, animal husbandry etc so that farmers livelihood is not threatened during droughts and other natural calamities. The field survey has revealed that 70% of the farmers entirely depend on farming for their livelihood. Two successive droughts can throw them out of gear.

22. Marketing Research and Marketing Information system of the Fertilizer marketing units have to be strengthened. The field survey has revealed lack of interaction between sales men and farmers. The communication and extension programmes are becoming routine and losing the impact.

23. A large proportion farmers surveyed in A.P. report that sanctioning of credit is getting unduly delayed besides the incidental expenses for obtaining it being very high, as a result of such delay the fertilizer application time would be over and the amount would be utilized for other purposes and becomes a liability. Such delays must be avoided. Timely availability of credit is an important factor for fertilizer consumption.

24. Warehousing corporations and the Railways should adopt a marketing approach for offering the logistics facilities. Handling facilities at the rake handling stations and also secondary
transportation from rail head to warehouse / dealer point should be improved.

25. High potential and low consumption states must be taken up for developmental work

These conclusions and recommendations would enable the policy makers of the industry and the governments to streamline the system for improved service to farmers and the academicians would take up research in specific areas of Fertilizer marketing management.

8.3 AREAS FOR FURTHER RESEARCH

This research has identified the following prominent areas to be focused for further research in the fertilizer marketing system:

1. Marketing strategies for stimulating fertilizer consumption in dry land farming.

2. Scope for bulk handling and movement of fertilizer products.

3. MIS for fertilizer logistics system

4. Sales forecasting in fertilizer marketing

5. Scope for a common promotion and extension organization

6. Scope for developing and marketing liquid fertilizers

7. Scope for customized service in fertilizer marketing

8. Farmers attitudes and behaviour towards fertilizer use
9. Reach and impact of promotional and extension programmes.

The central and state warehousing corporations can take up studies on appropriate location and capacity of storage points for supporting the fertilizer marketing. Studies on product mix and range is another important area for investigation.

It would also be worthwhile to build in some aspects relating to fertilizer and its use in the academic syllabus of rural schools so that the information is available to the young mind well early in life.

8.4 CONCLUSION

The suggestions and recommendation made as a result of this study are of importance for improving the effectiveness in fertilizer marketing system. These cover a wide area of fertilizer marketing mix. On the emerging agricultural and policy environment these recommendation have practical implication at micro and macro level decision making and thereby enable improving the efficiency of the marketing system and for increased agricultural productivity/farmers welfare.