

## CHAPTER-7

# **SUMMARY , CONCLUSIONS AND SUGGESTIONS**

This chapter presents the summary of the study along with the broad conclusions , further areas of research and suggestions of the study.

The chapter has been organised under the following heads.

*7.1 Summary of the study*

*7.2 Findings of the study / Conclusions*

*7.3 Further areas of research*

*7.4 Policy implications / Suggestions*

## **7.1 SUMMARY OF THE THESIS**

Poultry farming is an agro-based industry and it generate quick income and provide employment to the rural masses. Poultry eggs and meat are rich sources of proteins and minerals and people consume these food items in their daily diet. In the State of Goa poultry farming has got immense scope by considering it's increasing consumption and demand. An attempt has been made in this study to have an economic analysis of poultry farming in the State of Goa. The study has been organised in 7 chapters.

Chapter-1 includes the introduction part , covering Significance of poultry farming in India , Economic importance of poultry, Problem focus , Objectives, Hypotheses, and Presentation . This chapter gives a broad picture of the poultry farming in India including its consumption ,availability,and exports. The contributions of the central government for the development of poultry were discussed along with the problems of the industry. The poultry farming situation in Goa state were discussed and the need for the present study was emphasized. The specific objectives of the study and the hypotheses going to be tested were listed along with a brief chapterisation scheme.

A review of literature was presented in Chapter-2 . The available studies and their results in the demand aspects of poultry , cost-return structure of poultry , marketing aspect , miscellaneous aspects ,etc. were discussed in this section . It was found that these studies were quite inadequate in answering the questions raised in this study and there were hardly any study conducted in Goa. Therefore a further study which will cover all the economic aspects of poultry in Goa was found significant.

Chapter-3 indicate the methodology , comprising of Description of the study area , sampling procedures and statistical techniques used . The method of stratified random sampling was used for selection of samples. The poultry farms were classified into small , medium and large size groups according to the number of birds they keep. The primary data were obtained from the selected farms through a questionnaire specially prepared for the study. The secondary data were collected from different departments of the Goa State Government.

It was in Chapter-4 that a taluka-wise analysis of number of poultry farms were made and found that there is regional variations in poultry meat and egg production in Goa. The different factors influencing the demand for poultry products were identified and their degree of association with the demand were calculated using correlation analysis and the regression coefficients were estimated using regression analysis.

Linear and Log models were used for estimating the demand functions. It was found that the major factor influencing the demand for poultry meat and eggs in Goa is the income of the consumer. The demand for broilers and eggs in Goa up to the year 2010 were forecasted using the estimated regression equations.

Chapter-5 examined the cost-benefit structure of poultry farming in Goa. The cost of production of layers and broilers were analysed and the different items of costs and returns were compiled. The viability of poultry farming in Goa were examined by finding the benefit-cost ratios for different size groups. It was found that poultry farms of all the size groups were economically viable in Goa. The minimum economic price and minimum economic size were also calculated for the different size groups.

It was in Chapter-6 that the problems of poultry products marketing in Goa have been discussed. There were two channels of egg and broiler marketing in Goa. The different functionaries in these marketing channels and their margins in the consumer's rupee were computed. It was found that the middlemen were making more profits than the producers. The seasonal variations in egg prices and broiler prices were noted and the trend values were calculated using moving averages. The seasonal indices were computed. An organised marketing channel

with a constant price for poultry products was found to be necessary in Goa in order to regulate the fluctuations in egg and broiler prices.

The last chapter included the summary of the study along with the broad conclusions, further areas of research and policy implications.

## **7.2 FINDINGS OF THE STUDY / CONCLUSIONS**

The broad findings of the present study were

(1) There were 232 broiler poultry farms and 36 layer poultry farms in Goa at the time of this study.

(2) The Taluka wise analysis of poultry farms indicated that there is large regional disparity in poultry production. 22.4% of the farms were in Salcete Taluka whereas Marmagao Taluka has got only 2.58% of the farms. In the case of layer farms, Bardez Taluka has got 30.5% of the farms. Sattari Taluka has got only 1 layer farm while Pernem, and Canacona Talukas did not have any layer poultry farms.

(3) The size wise classification implies that out of the broiler farms 39.65% were in the size group 1001-and above. 33.33% layer farms were having birds between 1001-5000. 8.33% layer farms were having more than 20,000 birds.

(4) The different factors influencing the demand for poultry products in Goa ( explanatory variables) were found to be , the income of the consumer , the yearly tourist arrivals , the price of broiler , the price of eggs , and the price of substitute meat( mutton ) .

(5) The linear growth rate analysis disclosed that the demand for broilers in Goa has shown a growth rate of 10% during the period 1977-1997 while the demand for eggs has shown a growth of only 5%. The local production of broilers registered a growth of 9% and that of eggs registered a growth of only 2% . The imports of broilers from other States to Goa has shown a growth of 15% and in the case of eggs , it was 10%.

(6) It was found while estimating the demand functions for broiler meat and eggs that the demand for poultry products is mostly determined by the income of the consumer , followed by yearly tourist arrivals.

(7) The income elasticity in the demand for broilers was found to be +1.31 and the price elasticity was found to be -0.635 . In the case of demand for eggs , the income elasticity was +1.1 and the price elasticity was -1.01 .

(8) Based on the estimated demand functions , the demand for broilers and eggs up to the year 2010 were forecasted. Accordingly , the demand for broilers in the year 2010 was estimated to be 40.70 million and that of eggs was estimated to be 571 million. If the existing growth continues , the local production of broilers will be 33.10 million in 2010 and the local production of eggs will be 165.50 million. There will be a gap of 7.6 million in broilers and 405.5 million in eggs. To fulfill this gap , the local

production of broilers and eggs in Goa should be increased in the coming years. More poultry farms should be started in Goa , in Private sector as well as in Government sector and also the existing farms have to increase their production.

(9) Out of the total cost for producing a broiler , on an average 88.1% was accounted by the variable cost and 11.9% was accounted by the fixed cost.

(10) *It was found that the size of the farm has certain effect on the cost of production.* The total cost per broiler amounted to Rs.37.06, Rs.36.84 and Rs.35.00 for small size , medium size and large size group farms respectively. Hence it is to be concluded that the total cost per broiler decreases with the farm size , indicating economies of scale.

(11) The feed cost was found to be the major cost of production. On an average, the feed cost accounted for 40 % of the production cost of a broiler and 58% in the case of a layer. The feed cost also varied with the size of the farm. *Therefore , the price variations for poultry products in the market were affected by change in feed cost as well as in total cost.*

(12) The returns from poultry farming were found to be increasing with the farm size . The large size farms were getting more returns compared to the small and medium size farms; eventhough the cost of production was more or less stagnant. Better breeding , effective feeding and proper management on large size farms resulted in higher egg production and broiler production.

(13) The minimum economic price of a broiler was found to be Rs.41.3 and that of an egg was found to be Rs.1.03 .

(14) The minimum economic size for the small size , medium and large size groups were found to be 167 birds, 554 birds and 1015 birds respectively. In the case of layer farming , the minimum economic size for the small size group was found to be 230 birds and for the medium-large size farms , it was found to be 4270 birds.

(15) In broiler farming , the benefit-cost ratio for all the size groups of farms taken together was found to be 1.20 and in layer farming it was found to be 1.17. The ratios were found to be increasing with the farm size indicating economies of scale.

(16) It was concluded that poultry farms of all the size groups were economically viable in Goa.

(17) It was found from the study that eggs and broilers were not regularly available in the rural areas of Goa. Also it was noted that the selling price of eggs and broilers were more in rural areas than urban areas.

(18) There were 2 channels of egg marketing and broiler marketing in Goa . Channel 1 comprised of Producer- Wholesaler - Retailer - Consumer and Channel 2 comprised of Producer - Consumer . The middlemen were getting maximum margins in these channels.

(19) In egg marketing Channel-1 , the producer got about 60% of the consumer's rupee while in Channel-2 , he got about 80%. Similarly, in

broiler marketing in Channel-1 , the producer got about 65% of the consumer's rupee while he got about 80% in Channel-2.

(20) Since it was practically not possible for majority of the poultry farmers to market their products in Channel-2 , that is , by establishing their own shops in the market area , the farmers were depending on Channel- 1 eventhough the returns were comparatively less.

(21) It was found that in Goa , the egg prices and broiler prices were affected by seasonal fluctuations which repeat year after year.

(22) The seasonal variations in egg prices were above the norm in the months of January , February , June , July and December and lower the norm in the months of March , April , May , August ,September, October and November. A variation of +8.6% was observed in the month of January -5.6% was observed in the month of March.

(23) The seasonal variation in broiler prices was the highest for the Quarter :December-January-February (+9.73%) and the least for the Quarter September-October-November(-6.58%).

### **7.3 AREAS OF FURTHER RESEARCH**

In this study , the technical and technological importance of poultry business , latest improvements in poultry production techniques , their efficiency measures , management efficiency , significance of

training and management have not been discussed and as such these areas may be thrown open for further research.

#### **7.4 SUGGESTIONS / POLICY IMPLICATIONS**

Based on the conclusions from the study , the following policy implications have been suggested inorder to boost poultry farming activity in Goa.

(1) The local production of poultry eggs and broilers may have to increase further in the coming years inorder to meet the demand. This will reduce the imports from other states , thus avoiding the market competition for the local poultry farmers. The poultry producers can ensure maximum returns for their products by popularising the local broilers and eggs.

(2) The 4 hatcheries in Goa were not able to supply the required number of broiler and layer chicks to the poultry farms in Goa and therefore more hatcheries are needed in Goa and they should supply chicks of good breed

(3). In the remote Talukas ,viz.; Sattari , Pernem and Canacona , the shortages in eggs and broilers were noted and therefore some poultry farms especially layer farms have to be set up immediately in these Talukas. This will balance the selling prices of broilers and eggs in the rural villages.

(4). The poultry farmers , especially those who are running small and medium size farms require more training in poultry management and latest poultry rearing techniques. These farmers should try to introduce modern equipments like feed mixing plants , automatic feeding and watering techniques , etc. They may be given subsidized loan facilities inorder to acquire these amenities. Since feed cost is the major cost of production , if feed becomes easily available in Goa itself , the production cost can be minimized. Therefore some poultry feed manufacturing plants have to be set up in Goa. The State Government can also provide poultry feed at subsidized rates to the deserving poultry farmers.

(5). Since it was found that the visit of tourists in Goa has a positive impact on the demand for poultry products, proper steps are to be taken inorder to boost tourism industry in Goa. Eventhough the income range of domestic tourists is less, their number is so high and therefore their interests should be taken care of . Tourism packages for the foreign tourists also should be made more attractable.

(6) Since the cost of production was more or less stagnant but returns were higher in large size farms , poultry farming in Goa can be a source of increasing returns by increasing the number of birds in the farms. The necessary infrastructure may be developed in the farms.

(7) Since the middlemen were profiting more in broiler and egg marketing , the poultry producers as far as possible should come forward to market

directly their products by establishing their own links in the towns. In this system , the poultry producer can ensure maximum returns.

(8) There should be a central marketing scheme for broilers and eggs through which poultry products can be available round the year without having the problem of price fluctuations. The producers as well as the consumers will benefit from this network. There should be a minimum price for broiler and egg , which the producer should get round the year. The State Government through the department of Animal Husbandry should take initiative to start such a central marketing scheme. The poultry farmers also should come foreword to start poultry marketing co-operative societies atleast one in each Taluka which will act as agencies for collecting broilers and eggs from the farms and also for distributing them at the minimum listed prices.

(9) Since the storage of poultry eggs and matured broilers were found to be a problem in the marketing of poultry products , the farmers may invest further to have storage facilities inorder to store eggs and dressed chickens. This will balance the demand in the peak period and the restricted supply.