9.0 In the concluding chapter, an attempt has been made to summarise the major findings and based on the findings some conclusions are drawn for policy implications. The chapter also highlights the limitations and issues for further research.

Accordingly, the present chapter is divided into five sections. Section 1 summary, Section 2 highlights of findings, Section 3 policy implications, Section 4 limitations and Section 5 issues for further research.

9.1 Summary

9.1.1 The study has attempted towards the analysis of economic aspects of shell craft industry in Kanyakumari district by selecting 300 representative samples. The study is based upon the primary and secondary data. The primary data were collected through an interview schedule. The secondary data were collected from District Industries Centre, Nagercoil. The period for which the data collected relate to 1995-96. The objectives are to analyse the production, cost structure, employment, marketing and profit of sample shell craft units. The important economic variables namely, output, cost, wages
and profit are measured in terms of rupees. Employment of labour is measured in number of persons. These variables are studied with reference to a single day, since the entrepreneurs do not maintain any accounts.

9.1.2 Shell craft industry is one of the important traditional handicraft industries generating rural employment. The sea-shells are the main raw material used for producing shell articles. The important articles produced are door curtains, lamp shades, pot hangers, shell mats and shell ornaments. The major item of production is door curtains.

9.1.3 The mean value of aggregate production has been increasing at a rate around Rs.600 along with every Rs.500 increase in investment. However, there is a sudden jump in production for the highest investment group. The average production has increased by more than three times for this group when compared to the other investment groups.

9.1.4 More than 87 per cent of the units has atleast 5 years of experience. The mean value of production for all the 300 units has been Rs.1,085. There is a positive relationship between experience of the units and average production. The average output is higher for the units run by entrepreneurs of age above 55 years.
9.1.5 Value added is computed from the total output by subtracting material cost and other cost (packaging and transport). Value added has been increasing along with an increase in investment. There is a direct relationship between experience of the units and average value added. Value added has been the highest for the 15 to 20 years experienced units. There is only a gradual increase in the value added along with increase in the age of the entrepreneurs.

9.1.6 For the 300 units selected for the study, the investment (cost of production per day) ranges from Rs.269 to Rs.7,500. Approximately 78 per cent of the units invested at the most Rs.1,000. There are 40 units in the investment group above Rs.1,000 and at the most Rs.1,500.

9.1.7 To analyse the relationship between output and the various inputs, a log-linear function is fitted. The sum of the elasticity coefficient is 0.95 which indicates that constant returns to scale is prevailing in the industry.
9.1.8 The fixed capital on machinery is nil. Since all costs are variable costs the total variable costs coincides with the total cost. The total costs has three components, namely, (i) material cost, (ii) labour cost and (iii) other costs. In the total cost, the share of labour cost is 29.9 per cent, material cost is 68.13 per cent and other cost is 1.97 per cent. The average total cost per unit ranges from Rs.315 to Rs.3,269. More than two-thirds of the units have purchased raw materials from local traders. Nearly one-third of the units has purchased from out station traders. Only one unit has purchased from an agent.

9.1.9 There is no direct relationship exists between experience of the firms and average labour cost. As the age of the entrepreneur increases the average material cost to total cost diminishes.

9.1.10 To analyse the relationship between output and total cost of production, a simple linear regression function is fitted. The estimated value of fixed cost is Rs.84.85 which is very small. The marginal cost of producing one rupee worth of output is Rs.0.725. It is inferred that the firm could earn an additional profit of 25 paise for every additional investment of Rs.0.75 in the existing range of production. Profit is negative upto,
the level of output Rs.314.26. At that level of output, total cost of production is equal to Rs.314.26. It is inferred that the output has to be Rs.314.26 to earn normal profit. All the 300 firms surveyed have produced more than Rs.314.26 worth of output. In otherwords all the sample shell craft units have been earning positive profit.

9.1.11 Employment pattern is expressed by classifying labour interms of i) occupational status ii) part-time and full-time iii) sex and age. All the sample shell craft units worked for more than 330 days on the average. Except for the highest investment group, as investment increases the average days of employment diminishes. The experience of the units and the average days of employment are inversely related. It is seen that there is no direct relationship between age of the entrepreneur and number of days worked.

9.1.12 The employment of labour has varied between 2 and 102 persons for the entire sample units. More than 98.80 per cent of the labourers is females and 1.20 per cent of the labourers is men. Child labour, which is completely female child labour, forms 27.41 per cent. As investment increases the average employment of labour also
increases. The average number of workers employed per unit ranges from 9 to 66 for the different investment groups.

9.1.13 The young entrepreneurs have employed the least number of workers in their units. The entrepreneurs in the age group of 35 to 55 have employed, on an average, 24 labourers per unit. The employment of skilled labour category is higher when compared to the employment of other two categories of workers. Employment of all the three categories of labourers has been the least for the young entrepreneurs.

9.1.14 A multiple regression model is estimated to analyse the relationship between labour and output. It is inferred that the skilled and semi-skilled labourers have influenced value added positively and significantly. The sum of the elasticity coefficients is 1.00 which implies that there is constant returns to scale in the industry. The marginal productivity worked out is 26.75. The actual wage paid to shell craft workers ranges from Rs.15 to Rs.20. It shows that the labourers are paid less than their marginal productivity. In otherwords, there is exploitation of labour. The average number of part-time and full-time workers employed is 12.62 and 10.36
respectively. The employment of part-time workers is higher than that of full-time workers. There is a sharp decline in the employment of part-time workers of the 15-20 years experience group. There is a diametrically opposite preference between the 15-20 years experience group and the most experienced group as far as the employment of part-time and full-time workers are concerned. The employment of male and child labourers changes erratically when the experience of the firms increases. Generally male labourers are given Rs. 60 per day. Child labourers are paid, on the average Rs. 6 per day. Women labourers are paid Rs. 15 per day on the average.

9.1.15 Producers market their products through 6 channels of marketing. The highest investment group has chosen more number of channels. It has been noted that 158 units have marketed through only one channel, 128 units through 2 channels and 9 units have marketed through 3 channels. The lowest investment group has used at the most two channels. The shell craft units with less than 10 years of experience have gone for relatively more number of marketing channels. The channel 'Producer-cum-Wholesaler' is the most preferred channel followed by 'Supplier of raw materials'. The less experienced firms mostly depend upon the channel 'Supplier of raw material'. The utilisation of more number of marketing
channels implies the growth of the shell craft units in the study area.

9.1.16 To analyse the growth of shell craft units trend line is fitted. The fitted trend line reveals that as 'time' increases by one year, number of shell crafts units increases by 24. On the average 24 units are added to the shell craft industry per annum during the period 1985 to 1996.

9.1.17 Profit is measured as the difference between total output and total cost per day. In the sample, the lowest profit is Rs.45 and the highest profit is Rs.3,600 per day. Investment and profit of the units move together. There is no direct relationship between experience of the firm and profits earned. The average profit earned by units increases along with an increase in investment. Nearly 75 per cent of the units have been getting a profit rate of 10 to 30 per cent. All the units with the experience of more than 20 years have been able to earn a profit of 20 to 40 per cent.

9.1.18 A multiple linear regression model is fitted to understand the causes of variation in inter-unit profit. Positive and significant value of the coefficient, 'age of the enterprise' implies that the variables 'profit' and 'age of the enterprise' are moving
in the same direction. The estimated value of the regression coefficient of the variable 'value added' implies that, as the value added increases by one rupee, on the average, profit is increased by Rs.0.99. In otherwords, profit is increased by more or less the same amount. It shows clearly that there is exploitation of labour.

9.2 Major Findings

9.2.1 The mean value of aggregate production has been increasing at a rate around Rs.600 along with every Rs.500 increase in investment. However, there is a sudden jump in production for the highest investment group. The average production has increased by more than three times for this group when compared to the other investment groups.

9.2.2 Value added has been increasing along with an increase in investment. There is a direct relationship between experience of the units and average value added. Value added has been the highest for the 15 to 20 years experienced units.

9.2.3 For the 300 units selected for the study, the investment (cost of production per day) ranges from Rs.269 to Rs.7,500. Approximately 78 per cent of the units
have invested Rs.1,000. There are 40 units in the investment group above Rs.1,000 and at the most Rs.1,500.

9.2.4 In the regression model to analyse the relationship between output and the various inputs, the sum of the elasticity coefficient is 0.95 which indicates that constant returns to scale is prevailing in the industry.

9.2.5 The fixed capital on machinery is nil. Since all costs are variable costs the total variable costs coincides with the total cost.

9.2.6 In the total cost, the share of labour cost is 29.9 per cent, material cost is 68.13 per cent and other cost is 1.97 per cent. The average total cost per unit ranges from Rs.315 to Rs.3,269.

9.2.7 The estimated value of fixed cost in the cost function analysis is Rs.84.85 which is very small. The marginal cost of producing one rupee worth of output is Rs.0.725. It is inferred that the firm could earn an additional profit of 25 paise for every additional investment of Rs.0.75 in the existing range of
production. Profit is negative up to the level of output Rs.314.26. At that level of output, total cost of production is equal to Rs.314.26. It is inferred that the output has to be Rs.314.26 to earn normal profit. All the 300 firms surveyed have produced more than Rs.314.26 worth of output. In other words, all the sample shell craft units have been earning positive profit.

9.2.8 The employment of labour has varied between 2 and 102 persons for the entire sample units. More than 98.80 per cent of the labourers is female and 1.20 per cent of the labourers is men. Child labour, which is completely female child labour, forms 27.41 per cent. As investment increases the average employment of labour also increases. The average number of workers employed per unit ranges from 9 to 66 for the different investment groups.

9.2.9 In the multiple regression model estimated, it is inferred that the skilled and semi-skilled labourers have influenced value added positively and significantly. The sum of the elasticity coefficients is 1.00 which implies that there is constant returns to scale in the industry. The marginal productivity worked out is 26.75. The actual wage paid to shell craft workers ranges
from Rs.15 to Rs.20. It shows that the labourers are paid less than their marginal productivity. In other words, there is exploitation of labour.

9.2.10 Producers market their products through 6 channels of marketing. The highest investment group has chosen more number of channels. It has been noted that 158 units have marketed through only one channel, 128 units through 2 channels and 9 units have marketed through 3 channels.

9.2.11 In the sample, the lowest profit is Rs.45 and the highest profit is Rs.3,600 per day. Investment and profit of the units move together. There is no direct relationship between experience of the firms and profits earned.

9.2.12 All the units with the experience of more than 20 years have been able to earn a profit of 20 to 40 per cent.

9.2.13 Positive and significant value of the coefficient, 'age of the enterprise' in the multiple linear regression model implies that the variables 'profit' and 'age of the enterprise' are moving in the same direction.
9.2.14 The estimated value of the regression coefficient of the variable 'value added' implies that, as the value added increases by one rupee, on the average, profit is increased by Rs.0.99. In other words, profit is increased by more or less the same amount. It shows clearly that there is exploitation of labour.

9.3 Policy Implications

9.3.1 From the cost function analysis, it is seen that all units are getting positive profit. There is no guarantee that it may continue in future also. From the profile of shell craft units' owners, it is noted that 98 percentage have not gone for institutional credit.

9.3.2 With passage of every five year plan the importance of small industries and village and cottage industries has been growing with the main purpose of creating sustainable employment opportunities. This has been necessitated by the inability of the organised sector to absorb the additional labour force. In the case of shell craft industry, what is required more is not institutional credit facility but periodic training programmes so that it could have product diversification and
increasing market for its' products. It may give sustainable employment and income for the entrepreneurs of the units.

9.3.2 From the production analysis (in which the contribution of labour to value added is analysed) it is seen that the marginal product of labour (Rs.26.75) is much higher than the prevailing average wage rate (Rs.13.06). Besides, the profit analysis has shown that any increase in value added beyond certain level in the relevant range of value added given by the sample, goes completely to the owners. From the two analyses it is clear that there is exploitation of labour in the industry. The Government may bring the unorganised sector also under the Minimum Wages Act and enforce minimum wage to help labourers especially women.

9.3.3 Beyond doubt the study has established the existence of child labour, most specifically, full-time female child labour in the industry. Female children are to be sent to schools and educated so that literacy level in general and female literacy level in particular would increase. Besides, their labour potential could improve and provide them better opportunities of employment and income.
9.4 Limitations of the Study

The present study is subject to the following limitations:

The study takes into account only sea-shell crafts and not shells of other types such as coconut shell and tortoise shell.

Output is measured in value terms and not in physical units.

Computation of annual data relating to output, raw material and cost of production is not attempted since entrepreneurs could not supply data as they do not maintain accounts either monthly or annually. Hence per day (i) production, (ii) cost of production and (iii) profit are taken as the crucial variables.

The data utilised in the study are subject to recall bias and memory of the respondents.

9.5 Issues for Further Research

9.4.1 Modern shell craft industry could be studied on similar lines.

9.4.2 For each of the handicrafts economic studies could be undertaken separately.

9.4.3 Study on employment potential and wage payment in traditional and modern industry in shell crafts could be a useful one.