8.1. Introduction

The study was aimed at measuring the problems and prospects of fishery entrepreneurs and the factors influencing the fishery entrepreneurs in Chennai City. The study was conducted in 44 coastal villages of Chennai City selecting 650 fishery entrepreneurs. Field survey method and personal interview schedule were adopted to collect the necessary information for this study. The production practices and problems, marketing practices and problems, financing practices and problems and factors influencing the fishery entrepreneurs were identified by means of a scoring scheme. In this chapter, an attempt has been made to recapitulate the key findings of this research and conclusions arrived at. Based on these findings a few suggestions are also made.

8.2. Findings of the study

The following findings are extracted from analysis of the present study:

8.2.1. Findings related to analysis of mechanized boat entrepreneurs

- (105) 52.5% respondents belong to Most Backward Class (MBC), (41) 20.5% respondents belong to Backward Class (BC), and (27) 13.5% respondents belong to Scheduled Caste / Scheduled Tribes (ST/ST) and (27) 13.5% sample respondents are from Forward group.

- (133) 66.5% profess Hinduism, (34) 17% profess Christianity and (33) 16.5% followed Islam.

- The number of uneducated Mechanised boat respondents is (73) 36.5% of the total of 200 respondents in the study area. Only (60) 30% of respondents had primary school education. About (27) 13.5% of respondents are educated Above high school, 13% of respondents
went up to Middle school and 7% of the entrepreneurs had High school, education.

- (134) 67% of respondents have Nuclear families and 66 (33%) respondents have big families.
- (146) 73% of respondents are living in their own houses and the remaining (54) 27% of respondents are living in rental houses.
- (160) 80% sample respondents’ houses are electrified and remaining (40) 20% sample respondents’ houses are not electrified.
- (120) 60% respondents have water facilities and (80) 40% do not have water facilities in their houses.
- (160) 80% of the respondents have sanitary facilities and remaining (40) 20% of the sample respondents do not have sanitary facilities in their houses.
- (139) 69.5% of respondents have the habit of taking liquor and the remaining (61) 30.5% of respondents do not have the habit of taking liquor.
- (76) 54.67% of respondents have the habit of taking liquor very often, (33) 23.75% have the habit of taking liquor almost daily and the remaining (30) 21.58% of respondents have the habit of taking liquor occasionally.
- (147) 73.5% of respondents opined that some kind of group clashes arose during the last five years and (53) 26.5% of respondents opined that there was no group clashes in their village during the last five years.
• (167) 83.5% of respondents insured their life and (33) 16.5% of respondents have not insured.

• (140) 70% of respondents have taken precautionary steps to safeguard life from natural calamities and (60) 30% of respondents have not taken precautionary steps.

• (107) 53.5% of respondents are willing to change their fishing profession.

• (50) 25% respondents chose this profession because of poverty, (30) 15% respondents opted for them to support the family, (38) 19% of respondents wanted to assist the parents in the traditional job, (17) 8.5% respondents were dis-interested in education and hence the choice (15) 7.5% respondents chose this profession due to the irresponsibility of parents, (14) 7% respondents’ reason is self interest, (13) 6.5% respondents reason is friends influence and no employment through education and finally small portion (10) 5% of respondents’ reason is to earn more income.

• Among the various mean operating expenses Rs.8,24,916 per year among respondents of mechanized boat entrepreneurs. Diesel constitutes the major item of operating expenses it accounts for Rs.5,33,968 (64.7%) of it, followed by Rs.91,539 (11.1%) for ice, Rs.76,600 (9.29%) for ration, Rs.39,357 for eco-sounder and wireless, Rs.30,772 for bata and the rest is spent for other maintenance expenses per year.

• 46% (92) respondents have incurred daily wages ranging between Rs. 75 and Rs.100, 34% (68) respondents have incurred daily wages
above Rs.100 and the rest i.e. 10% (20) respondents have incurred daily wages from Rs.25 to Rs.50 and Rs.50 to Rs.75.

- 30.5% (61) had the annual quantity of fish catches above 9000 tonnes, 28.5% (57) of respondents between 5000 and 7000 tonnes, 17% (34) of respondents from 7000 to Rs.9000 tonnes and 1000 to 3000 tonnes and 7% (14) of respondents had the annual quantity of fish catches ranging between 3000 and 5000 tonnes.

- 59.5% (119) of respondents attend EDP training for fishing and fish processing.

- The Garrette rank analysis showed that among the nineteen problems, the problem of Lack of life security has secured higher mean score and stood at the top, followed by Poverty, Lower wages, Longer working hours, Lack of remuneration for off-season, Problem of finance, Exploitation of middlemen, No fixed payment, Lack of improvement in marketing system, Poor management, Non satisfaction with the distribution of wages, Lack of freedom in the working place, Suffering from occupational diseases, Lack of education, Lack of interpersonal relationship with the co-workers, Lack of infrastructural facilities in fishing villages, Inhuman treatment of owners and scarcity of fishing materials. The least important fishing problem perceived by the respondents is inadequate training.

- (119) 59.5% of respondents used sale in the beach by auction method and weighing method for marketing their catch fish, (48) 24% of respondents used auction method and only (33) 16.5% of respondents adopt the weighing method of sale for marketing the fish.
• (110) 55% of respondents sell iced fish, (55) 27.5% of respondents sell dried & fresh fish and (35) 17.5% of respondents sell fresh fish. (134) 67% of respondents have stated that they could get only low price very often for their catch.

• (60) 30% of respondents have opined that Lorry service is used to bring their fishes to the fish market, (40) 20% of respondents utilize the Bi-cycle and Motor van services, (33) 16.5% of respondents bring their fishes through Railways and only (27) 13.5% of respondents used to bring their fishes to fish market through Head loads.

• (94) 47% of respondents are supplying fishes at National level, (39) 19.5% of respondents District level, (34) 17% of sample respondents State level and only (33) 16.5% of respondents are supplying fishes at Village level.

• (87) 43.5% of respondents graded fishes on the basis of variety of fishes, (61) 30.5% of respondents on the basis of taste, (26) 13% of respondents graded fishes on the basis of size and colour.

• (153) 43.5% of respondents have the adequate availability of ice bar and (47) 23.5% of respondents do not have the adequate availability of ice bar in the study area.

• (107) 53.5% of respondents did not make use of the storage facility and the rest (93) 46.5% of respondents availed of the cold storage facility.

• (66) 70.97% of respondents made use of the storage facility for export trade and the rest (27) 29.03% of respondents made use of the cold storage facility for future price expectation.
• (87) 76.32% of respondents did not preserve fish in cold storage due to high cost.

• (73) 36.5% of respondents have exported the fish catch to foreign countries such as Japan, USA, China, Spain, Hong Kong, Canada, Italy etc.

• The weighted average analysis showed that among the Marketing problems the agreeability mean score for 'lack of marketing system' is high and stood at the top, followed by ‘transport’ secured next higher and stood second, ‘broker charges’ stood third. ‘unloading’ stood fourth, ‘storage’ stood fifth, ‘package’ stood sixth, ‘market entrance fee’ stood seventh and finally ‘loading’ has secured the least score and stood last.

• (72) 36% of respondents had own funds ranging between Rs.600000 and Rs.900000, followed by (59) 29.5% of respondents between Rs.300000 and Rs.600000, (34) 17% of respondents between Rs.100000 and Rs. 300000, (21) 10.5% of respondents had own funds above Rs.1200000 and rest of (14) 7% of respondents had own funds ranging between Rs.900000 and Rs.1200000.

• (67) 33.5% of respondents had borrowed money ranging between Rs.600000 and Rs. 900000, followed by (46) 23% of respondents between Rs. 300000 and Rs.600000, (33) 16.5% of respondents between Rs. 900000 and Rs.1200000, (28) 14% of respondents between Rs.100000 and Rs.300000 , and rest of the (26) 13% of respondents had borrowed money above Rs.1200000.
(133) 66.5% of respondents are at monthly repayment, (34) 17% of respondents are at yearly repayment and (33) 16.5% of respondents are at weekly repayment.

(97) 48.5% of respondents have paid annual interest amounted above 50000, followed by (41) 20.5% of respondents ranging from Rs.40000 to Rs.50000, (27) 13.5% of respondents paid annual interest ranging from Rs. 30000 to Rs. 40000, (21) 10.5% of respondents paid annual interest ranging between Rs. 10000 and Rs.20000 and (14) 7% of respondents paid annual interest ranging from Rs.20000 to Rs.30000.

(66) 33% of respondents have received subsidy for Outboard Motors and Engines and Nets from the Government which ranges between Rs. 1000 and Rs.3000, followed by (60) 30% of respondents from Rs.3000 to Rs.5000, (48) 24% of respondents from Rs.5000 to Rs.7000, (21) 10% of respondents from Rs.7000 to Rs.9000 and only (5) 2.5% of respondents received subsidy from the Government which ranges above Rs.9000.

(52) 26% of respondents have received subsidy of Reimbursement of Central Excise Duty on HSD Oil from the Government which ranges from 5000 to 7000, followed by (47) 23.5% of respondents from Rs.3000 to Rs.5000, (39) 19.5% of respondents from Rs.7000 to Rs.9000, (35) 17.5% of respondents from Rs.1000 to Rs.3000 and only (27) 13.5% of respondents received subsidy from the Government which ranges between above Rs.9000.

(54) 27% of respondents have the annual income between Rs.400000 and Rs.500000, followed by (48) 24% of respondents between
Rs.300000 and Rs.400000, (44) 22% of respondents above Rs.500000, (41) 20.5% of respondents between Rs.200000 and Rs.300000 and only (13) 6.5% of respondents have the annual income from Rs.100000 to Rs.200000.

- (105) 52.5% of respondents spend annual expenditure of above Rs.900000, followed by (35) 24% of respondents between Rs.700000 and Rs.900000, (33) 16.5% of respondents between Rs.500000 and Rs.700000, (20) 10% of respondents between Rs.300000 and Rs.500000 and only (7) 3.5% of respondents spend annual expenditure from Rs.100000 to Rs.300000.

- The analysis of variance showed that there is significant difference among the community with respect to the economic variables namely, total revenue per year, profit / loss per year, profit / loss to revenue ratio, expenses to revenue ratio.

- The analysis of variance showed that there is no significant difference among the community with respect to the economic variables namely, total expenses per year.

- The analysis of variance showed that there is a significant difference among the education with respect to the economic variables namely, total revenue per year, expenses per year, profit / loss per year, profit / loss to revenue ratio, expenses to revenue ratio.

- Among the financing problems the analysis revealed that the mean agreeability score for 'lack of awareness' has secured and stood at the top, followed by the mean score for 'high rate of interest' is higher and
stood second, ‘time delay’ stood third, ‘lack of security ‘ stood fourth and finally ‘lack of influence’ has secured least score and stood last.

- Majority 50 entrepreneurs have achieved 31% to 40% increase in fish production for the past five years. Majority 53 entrepreneurs have achieved 31% to 40% increase in sales, majority 55 entrepreneurs have achieved 11% to 20% increase in investment, majority 56 entrepreneurs have achieved 41% to 50% increase in owned capital, majority 51 entrepreneurs have achieved 1% to 10% increase in revenue, majority 66 entrepreneurs have achieved 1% to 10% increase in profit, majority 93 entrepreneurs have achieved 1% to 10% increase in number of crafts, majority 93 entrepreneurs have achieved 21% to 30% increase in fishing equipments, majority 50 entrepreneurs have achieved 41% to 50% increase in employment for the past five years from 2001 to 2006.

- Among the two groups namely low mean score on prospects of fishery entrepreneurs (Group I: n1=74) and high mean score on prospects of fishery entrepreneurs (group II:n2= 66)., with 9 Predictor variables the Discriminant analysis identified the four variables namely EQUIPM-X8, PROFIT-X6, SALE-X2 and EMPLOYME-X9 are substantially important variables in discriminating between groups namely entrepreneurs with low overall agreeability score and entrepreneurs with high overall agreeability score on prospects of fishery entrepreneurs.

- The inter-correlation matrix showed that there is a significant relationship between the economic variable’s scores namely increase in production- X1, increase in sales-X2, increase in investment-X3,
increase in own capital-X4, increase in revenue-X5, increase in profit-X6, increase in number of boats-X7, increase in number of equipments-X8 and increase in employment-X9.

- Multiple regression analysis of scores of increase in Production, increase in sales, increase in revenue and increase in employment during the past 5 years was performed with variables increase in investment, own capital and number of boats. The analysis has established the functional relation between them and showed the explanatory variables significantly contributing to the dependent variables.

8.2.2. Findings related to analysis of motorised craft entrepreneurs

- (150) 60% respondents belong to Most Backward Class (MBC), (44) 17.6% respondents belong to Backward Class (BC), (28) 11.2% respondents are from Scheduled Caste / Scheduled Tribes (ST/ST) and rest of them (28) 11.2% sample respondents are from Forward class.
- (164) 65.6% profess Hinduism, (51) 20.4% profess Christianity and 35 (14%) follow Islam.
- (85) 34% respondents are that of illiterates, (64) 25.6% respondents had primary education, 14% of respondents went up to high school, and 14.8% of respondents are educated above high school and (29) 11.6% respondents reached middle school.
- (172) 68.8% respondents have Nuclear families and (78) 31.2% respondents have big families.
• (77) 30.8% sample respondents are living in their own houses and the remaining (173) 69.2% of respondents do not own houses.

• (152) 60.8% sample respondents’ houses are electrified and remaining (98) 39.2% sample respondent’s houses are not electrified.

• (56) 22.4% respondents have water facilities and (194) 77.6% do not have water facilities in their houses.

• (129) 51.6% of the respondents have sanitary facilities and remaining (121) 48.4% of the sample respondents do not have sanitary facilities in their houses.

• (194) 77.6% of respondents have the habit of taking liquor and the remaining (56) 22.4% of respondents do not have the habit of taking liquor.

• (87) 44.85% of respondents have the habit of taking liquor almost daily, (77) 39.69% have the habit of taking liquor occasionally and the remaining (30) 15.46% of respondents have the habit of taking liquor very often.

• (222) 88.8% of respondents opined that some kind of group clashes arose during the last five years and (28) 11.2% of respondents opined that there was no group clashes in their village during the last five years.

• (210) 84% of respondents insured their life and (40) 16% of respondents did not insure.

• (210) 84% of respondents have taken precautionary steps to safeguard life from natural calamities and (40) 16% of respondents have not taken precautionary steps.
• (190) 76% of respondents are willing to change their fishing profession.

• (64) 25.6% respondents selected this field because of their poverty, (51) 20.4% respondents the reason to choose this profession was to earn more income, (40) 16% of respondents’ reason is to support the family, (22) 8.8% and (29) 11.6% respondents the reason is to assist the parents in the traditional job and irresponsibility of parents is also a reason, (17) 6.8% respondents reason is friends’ influence, and followed by a small portion (7) 2.8% respondents’ reason to select this profession is no employment through education, and self interest is also a cause for the choice.

• For (137) 58.4% respondents the actual number of fishing days ranges from 75 to 100 days during the peak season, for (63) 25.2% respondents fishing days are above 100 days, for (29) 11.6% of respondents fishing days ranges from 50 to 75 days and for another (21) 8.4% respondents fishing days ranges from 25 to 50 days during the peak season.

• Among the various mean operating expenses of Rs. 3,89,067 per year among respondents of motorised craft entrepreneurs. Diesel constitutes the major item of operating expenses, it accounts for Rs.1,70,380 (43.79%) of it, followed by Rs.73,466 (18.88%) for ice, Rs.64,714 (16.63%) for ration, Rs.31,284 (8.04%) for bata, Rs.15,088 (3.88%) for machine spare parts and the rest is spent for other maintenance expenses per year.

• 57.5% (143) respondents have incurred daily wages ranging between Rs.25 and Rs.50, 22.8% (57) respondents have incurred daily wages
ranging between Rs.50 and Rs.75, 11.2% (28) respondents have incurred daily wages above Rs.100 and the rest i.e. 8.8% (22) respondents have incurred daily wages ranging between Rs.75 and Rs.100.

- 42.8% (107) had the annual quantity of fish catches above 9000 tonnes, 26% (65) of respondents between 7000 and 9000 tonnes, 17.2% (43) of respondents between 5000 and 7000 tonnes, 11.2% (28) of respondents between 1000 and 3000 tonnes and 2.8% (7) of respondents had the annual quantity of fish catches ranging between 3000 and 5000 tonnes.

- 62.8% (157) of respondents attend EDP training related to fishing and fish processing.

- The Garrett rank analysis showed that among the nineteen problems, the problem of Lack of life security has secured 88.67 mean score and stood at top, followed by Exploitation of middlemen, Poverty, Lack of remuneration for off-season, Poor management, Lower wages, Lack of education, Longer working hours, No fixed payment, Non satisfaction with the distribution of wages, Inhuman treatment of owners, Lack of infrastructural facilities in fishing villages, Suffering from occupational diseases, Lack of improvement in marketing system, Problem of Finance, Scarcity of fishing materials, Lack of freedom in the working place and Inadequate training. The least important fishing problem perceived by the respondents is Lack of interpersonal relationship with the co-workers.
• (143) 57.2% of respondents used sale in the beach by auction method and weighing method for marketing their catch fish, (65) 26% of respondents used auction method and only (42) 16.8% of respondents adopt the weighing method of sale for marketing the fish.

• (165) 66% of respondents sell iced fish, (57) 22.8% of respondents sell fresh fish and (28) 11.2% of respondents sell dried and fresh fish. (187) 74.8% of respondents have stated that they could get only low price very often for their catch.

• (114) 45.6% of respondents have opined that Motor van service is used to take their fishes to the fish market, (71) 28.4% of respondents utilize the Bi-cycle services and only (65) 26% of respondents used to take their fishes to fish market through Head loads.

• (114) 45.6% of respondents are supplying fishes at District level, (71) 28.4% of respondents State level and only (65) 26% of respondents are supplying the fishes at Village level.

• (107) 42.8% of respondents graded fishes on the basis of taste, (80) 32% of respondents on the basis of variety, (35) 14% of respondents on the basis of size and only (28) 11.2% of respondents graded fishes on the basis of colour.

• (215) 86% of respondents have the adequate availability of Ice bar and (35) 14% of respondents do not have the adequate availability of Ice bar in the study area.

• (193) 77.2% of respondents did not make use of the storage facility and the rest (57) 22.8% of respondents availed of the cold storage facility.
(36) 63.16% of respondents made use of the storage facility for export trade and the rest (21) 36.84% of respondents made use of the cold storage facility for future price expectation. (172) 89.12% of respondents did not preserve fish due to the availability of cold storages at distance places.

(36) 14.4% of respondents have exported the fish catch to foreign countries such as Japan, USA, China, Spain, Hong Kong, Canada, Italy etc.

The weighted average analysis of marketing problems showed that the agreeability mean score for ‘transport’ is high and stood at the top, followed by ‘broker charges’ secured next higher and stood second, ‘unloading’ stood third, ‘package’ stood fourth, ‘loading’ stood fifth, ‘storage’ stood sixth, ‘market entrance fees’ stood at seventh and finally ‘Lack of marketing system’ has secured least score and stood last.

(87) 34.8% of respondents had own funds ranging between Rs.900000 and Rs.1200000, followed by (56) 22.4% of respondents between Rs.600000 and Rs.900000, (42) 16.8% of respondents between Rs.100000 and Rs.300000, (37) 14.8% of respondents above Rs.1200000, and rest of (28) 11.2% of respondents had own funds ranging between Rs.300000 and Rs.600000.

(107) 42.8% of respondents had borrowed money above Rs.1200000, followed by (58) 23.2% of respondents between Rs.600000 and Rs.900000, (50) 20% of respondents between Rs.900000 and Rs.1200000, (21) 8.4% of respondents between Rs.100000 and
Rs.300000, and rest of (14) 5.6% of respondents had borrowed money ranging from Rs.300000 to Rs.1200000.

- (144) 57.6% of respondents are at monthly repayment, (70) 28% of respondents are at weekly repayment and (36) 14.4% of respondents are at yearly repayment.

- (110) 44% of respondents have paid annual interest amounted above Rs.50000, followed by (61) 24.4% of respondents from Rs.40000 to Rs.50000, (48) 19.2% of respondents from Rs.30000 to Rs.40000, (20) 8% of respondents from Rs.20000 to Rs.30000, and (11) 4.4% of respondents paid annual interest ranging from Rs.10000 to Rs.20000.

- (121) 48.4% of respondents have received subsidy for Outboard Motors and Engines and Nets from the Government and it ranges from Rs.3000 to Rs.5000, followed by (43) 17.2% of respondents from Rs.5000 to Rs.7000, (37) 14.8% of respondents between Rs.1000 to Rs.3000, (28) 11.2% of respondents above Rs.9000 and only (21) 8.4% of respondents received subsidy from the Government ranging from Rs.7000 to Rs.9000.

- (102) 40.8% of respondents have received subsidy of Reimbursement of Central Excise Duty on HSD Oil from the Government which ranges from Rs.5000 to Rs.7000, followed by (71) 28.4% of respondents from Rs.3000 to Rs.5000, (35) 14% of respondents between Rs.1000 to Rs.3000, and only (21) 8.4% of respondents received subsidy from the Government which ranges from Rs.7000 to Rs.9000.

- (79) 31.6% of respondents have the annual income ranging between Rs.300000 to Rs.400000, followed by (77) 30.8% of respondents
between Rs.400000 and Rs.500000, (44) 17.6% of respondents’ income above Rs.500000, (29) 11.6% of respondents have income from Rs.100000 to Rs.200000 and only (21) 8.4% of respondents have the annual income ranging from Rs.200000 to Rs.300000.

- (115) 46% of respondents spend annual expenditure above Rs.900000, followed by (71) 28.4% of respondents between Rs.700000 and Rs.900000, (42) 16.8% of respondents between Rs.500000 and Rs.700000, (14) 5.6% of respondents from Rs. 100000 to Rs.300000 and only (8) 3.5% of respondents spend annual expenditure ranging from Rs.300000 to Rs.500000.

- The analysis of variance showed that there is a significant difference among the community with respect to the economic variables namely, total revenue per year, total expenses per year, profit / loss per year, profit / loss to revenue ratio, expenses to revenue ratio.

- The analysis of variance showed that there is a significant difference among the education with respect to the economic variables namely, expenses per year, profit / loss per year, profit / loss to revenue ratio, expenses to revenue ratio.

- The analysis of variance showed that there is no significant among the education with respect to the economic variables namely, total revenue per year.

- Among the Financing problems the analysis revealed that the mean agreeability score for ‘lack of awareness’ has secured and stood at the top, followed by the mean score for ‘lack of security’ is higher and stood second, ‘timely delay’ stood third, ‘high rate of interest' stood
fourth and finally ‘lack of influence’ has secured least score and stood last.

- Majority 71 entrepreneurs have achieved 21% to 30% increase in fish production for the past five years. Majority 64 entrepreneurs have achieved 41% to 50% increase in sales, majority 66 entrepreneurs have achieved 31% to 40% increase in investment, majority 65 entrepreneurs have achieved 1% to 10% increase in owned capital, majority 60 entrepreneurs have achieved 1% to 10% increase in revenue, majority 75 entrepreneurs have achieved 1% to 10% increase in profit, majority 64 entrepreneurs have achieved 11% to 20% increase in number of crafts, majority 58 entrepreneurs have achieved 31% to 40% increase in fishing equipments, majority 58 entrepreneurs have achieved 31% to 40% increase in employment for the past five years from 2001 to 2006.

- Among the two groups namely low mean score on prospects of fishery entrepreneurs (Group I: n1=81) and high mean score on prospects of fishery entrepreneurs (group II: n2= 78), with 9 Predictor variables the Discriminant analysis identified the four variables namely EQUIPM-X8, PROFIT-X6, SALE-X2 and EMPLOYME-X9 are substantially important variables in discriminating between groups namely entrepreneurs with low overall agreeability score and entrepreneurs with high overall agreeability score on prospects of fishery entrepreneurs.

- The inter-correlation matrix showed that there is a significant relationship between the economic variable’s scores namely increase in production- X1, increase in sales-X2, increase in investment-X3,
increase in own capital-X4, increase in revenue-X5, increase in profit-X6, increase in number of boats-X7, increase in number of equipments-X8 and increase in employment-X9.

- The Discriminant analysis for the motorized boat identified four variables namely INVEST-X3, PRODUC-X1, SALE-X2 and PROFIT-X6 are substantially important variables in discriminating between groups namely entrepreneurs with low overall agreeability score and entrepreneurs with high overall agreeability score on prospects of fishery entrepreneurs.

- The multiple regression model for Y-production indicated that out of the 8 explanatory variables, 5 variables namely, X2-, X4-, X7-, X8- and X9 have significantly contributed to Y and explained the variations of Y-Production to the extent of 41.3 %.

- The multiple regression model for sales indicated that out of the 8 explanatory variables, 4 variables namely, X1, X5, X7 and X8 have significantly contributed to Y-sales and explained the variations of Y-Production to the extent of 30.2 %.

- The multiple regression model for revenue indicated that out of the 8 explanatory variables, 5 variables namely, X1, X2, X4, X8 and X9 have significantly contributed to Y-revenue. and explained the variations of Y-Production to the extent of 36.0 %.

**8.2.3. Findings related to analysis of traditional craft entrepreneurs**

- (127) 63.5% belong to Most Backward Class (MBC), (27) 13.5% respondents belong to Backward Class (BC), (39) 19.5% respondents
are from Scheduled Caste / Scheduled Tribes (ST/ST) and rest of them (7) 3.5% sample respondents are from Forward class.

- (93) 46.5% profess Hinduism, (79) 39.5% profess Christianity and (28) 14% followed Islam.

- (141) 70.5% respondents are illiterates, (20) 10% respondents had primary education, 6% and 6.5% of the respondents went up to middle school and above high school and (14) 7% respondents reached up to high school.

- (160) 80% respondents have nuclear families and (40) 20% respondents have big families.

- (80) 40% sample respondents are living in their own houses and the remaining (120) 60% of respondents do not own houses.

- Out of the 200 Traditional craft sample respondents, only (46) 23% sample respondents’ houses are electrified and remaining (154) 77% sample respondents houses are not electrified.

- (52) 26% respondents have water facilities and (148) 74% do not have water facilities in their houses.

- (47) 23.5% of the respondents have sanitary facilities and remaining (153) 76.5% of the sample respondents do not have sanitary facilities in their houses.

- (153) 76.5% of respondents have the habit of taking liquor and the remaining (47) 23.5% of respondents do not have the habit of taking liquor.

- (121) 79.09% of respondents have the habit of taking liquor almost daily, (19) 12.42% have the habit of taking liquor very often and the
remaining (13) 8.49% of respondents have the habit of taking liquor occasionally.

- (140) 70% of respondents opined that some kind of group clashes arose during the last five years and (60) 30% of respondents opined that there was no group clashes in their village during the last five years.

- (80) 40% of respondents insured their life and (120) 60% of respondents have not insured.

- (21) 10.5% of respondents have taken precautionary steps to safeguard life from natural calamities and (179) 89.5% of respondents have not taken precautionary steps to safeguard life from natural calamities.

- (161) 80.5% of respondents’ position decreased in the last five years, (27) 13.5% of respondents’ economic position in the last five years remained same and only (12) 6% of respondents’ life improved in the last five years.

- (152) 76% of respondents are willing to change their fishing profession and (48) 24% of respondents are not willing to change their fishing profession.

- (107) 53.5% of respondents’ reason to select this profession, is assisting the parents in the traditional job, (33) 16.5% of respondents the reason to choose this profession is due to poverty, (19) 9.5% of respondents wanted to support the family, (7) 3.5% of respondents selected this profession because of their dis- interest in education, and some opted for this due to lack of employment through education,
friend’s influence, self interest and in order to earn more income and finally small portion (6) 3% respondents’ reason to select this profession is the irresponsibility of parents.

- For (80) 40% of respondents the actual number of fishing days ranges from 50 to 75 days during the peak season, and for (73) 36.5% respondents fishing days ranges from 75 to 100 days, and for another (34) 17% of respondents fishing days ranges from 25 to 50 days and finally for (13) 6.5% respondents fishing days are above 100 days during the peak season.

- Among the various mean operating expenses of Rs.12,776 per year among respondents of traditional craft entrepreneurs, repair charges constitutes the major item of operating expenses, it accounts Rs.3,559 (27.86%) of it followed by Rs.3,515 (27.51%) spent for kerosene, Rs.2,372 (18.5%) for bait, Rs.1,676 (13.12%) for gas and the rest is spent for other maintenance expenses per year.

- 63.5% (127) respondents have incurred daily wages ranging from Rs.25 to Rs.50, 19.5% (39) respondents have incurred daily wages ranging from Rs.50 to Rs.75, 10% (20) respondents have incurred daily wages ranging from Rs.75 to Rs.100 and the rest i.e. 7% (14) respondents have incurred daily wages ranged above Rs.100.

- 74% (148) had the annual quantity of fish catches upto100-300 tonnes, 16.5%(33) of respondents between 300 and 500 tonnes and 9.5% (19) of respondents had the annual quantity of fish catches ranged above 500 tonnes.
• 26% (52) of respondents attended EDP training related to fishing and fish processing.

• The Garrett rank analysis showed that among the nineteen problems, the problem of Lack of life security has secured higher mean score and stood at the top, followed by Poverty, Lower wages, No fixed payment, Exploitation of middlemen, Problem of finance, Lack of infrastructural facilities in fishing villages, Lack of improvement in marketing system, Lack of remuneration for off-season, Lack of education, Poor management, Lack of freedom in the working place, Non satisfaction with the distribution of wages, Suffering from occupational diseases, Longer working hours, Lack of interpersonal relationship with the co-workers, Inhuman treatment of owners and scarcity of fishing materials. The least important fishing problem perceived by the respondents is inadequate training.

• (106) 53% of respondents used sale in the beach by auction method for marketing their catch fish, (60) 30% of respondents used auction method and weighing method and only (34) 17% of respondents adopt the weighing method of sale for marketing the fish.

• (146) 73% of respondents sell Fresh fish, and (54) 27% of respondents sell Dried & Fresh fish. (148) 74% of respondents have stated that they could get only low price very often for their catch.

• (93) 46.5% of respondents have opined that Head load service is used to bring their fishes to the fish market, (60) 30% of respondents utilize the Motor van services and only (47) 23.5% of respondents used to bring their fishes to fish market through Bi-cycle services.
• (167) 83.5% of respondents are supplying the fishes at Village level and only (33) 16.5% of respondents in the District level.

• (95) 47.5% of respondents graded fishes on the basis of variety of fishes, (46) 23% of respondents on the basis of taste, (45) 22.5% of respondents on the basis of size and only (14) 7% of respondents graded fishes on the basis of colour.

• (173) 86.5% of respondents have the adequate availability of Ice bar and (27) 13.5% of respondents do not have the adequate availability of Ice bar in the study area.

• (147) 73.5% of respondents did not make use of the storage facility and the rest (53) 26.5% of respondents availed themselves of the cold storage facility.

• (32) 60.38% of respondents made use of the cold storage facility for future price expectation and the rest (21) 39.62% of respondents made use of the storage facility for export trade. (114) 77.03% of respondents did not preserve fish in cold storage due to high cost.

• (21) 10.5% of respondents did not make use of the storage facility and the rest of (179) 89.5% of respondents availed of the cold storage facility.

• The analysis on the Problems of Marketing Practice revealed that the mean agreeability score for ‘Lack of marketing system’ secured and stood at the top, followed by the mean score for ‘Transport’ is high and stood second, ‘Market Entrance charge’ stood third, ‘Broker charges ‘ stood fourth, ‘unloading’ stood fifth, ‘storage’ stood sixth, ‘loading’
stood seventh and finally ‘package’ has secured least score and stood last.

- (95) 47.5% of respondents had own funds ranging from Rs.100000 to Rs.300000, followed by (67) 33.5% of respondents between Rs.300000 and Rs.600000, (19) 9.5% of respondents between Rs.600000 and Rs.900000, (13) 6.5% of respondents had own funds above Rs.1200000, and the rest (6) 3% of respondents had own funds ranging from Rs.900000 to Rs.1200000.

- (81) 40.5% of respondents had borrowed money ranging from Rs.300000 to Rs.600000, followed by (47) 23.5% of respondents between Rs.600000 and Rs.900000, (33) 16.5% of respondents had borrowed money above Rs.1200000, (26) 13% of respondents between Rs.100000 and Rs.300000, and rest of (13) 6.5% of respondents had borrowed money ranging from Rs. 900000 to Rs.1200000.

- (147) 73.5% of respondents are on weekly repayment, (40) 20% of respondents are on monthly repayment and (13) 6.5% of respondents are on yearly repayment.

- (68) 34% of respondents paid annual interest ranging from Rs.20000 to Rs.30000, followed by (48) 24% of respondents from Rs.30000 to Rs.40000, (38) 19% of respondents between Rs.10000 and Rs.20000, (27) 13.5% of respondents paid annual interest amounted above Rs. 50000, and (19) 9.5% of respondents paid annual interest which ranges from Rs. 40000 to Rs.50000.
• (66) 33% of respondents have the annual income ranging from Rs.100000 to Rs.200000, followed by (60) 30% of respondents between Rs.200000 and Rs.300000, (46) 23% of respondents between Rs.300000 and Rs.400000, (21) 10.5% of respondents have income ranging from Rs.400000 to Rs.500000 and only (7) 3.5% of respondents having the annual income above Rs.500000.

• (85) 42.5% of respondents spend annual expenditure above Rs.900000, followed by (69) 34.5% of respondents between Rs.700000 and Rs.900000, (20) 10% of respondents between Rs.500000 and Rs.700000, (19) 9.5% of respondents between Rs.300000 and Rs.500000 and only (7) 3.5% of respondents spend annual expenditure from Rs.100000 to Rs.300000.

• The analysis of variance showed that there is a significant difference among the community with respect to the economic variables namely, total revenue per year, total expenses per year, profit / loss per year, profit / loss to revenue ratio, expenses to revenue ratio.

• The analysis of variance showed that there is a significant difference among the level of education with respect to the economic variables namely, total revenue per year, expenses per year, profit / loss per year, profit / loss to revenue ratio, expenses to revenue ratio.

• Among the Financing problems the analysis revealed that the mean agreeability score for 'Lack of security' has secured and stood at the top followed by the mean score for 'High rate of interest' which is next higher and stood second, 'lack of awareness' stood third, 'Lack of
influence ‘stood fourth and finally ‘Time delay’ has secured the least score and stood last.

- Majority 79 entrepreneurs have achieved 1% to 10% increase in fish production for the past five years. Majority 68 entrepreneurs have achieved 11% to 20% increase in sales, majority 127 entrepreneurs have achieved 1% to 10% increase in investment, majority 120 entrepreneurs have achieved 1% to 10% increase in owned capital, majority 95 entrepreneurs have achieved 1% to 10% increase in revenue, majority 88 entrepreneurs have achieved 1% to 10% increase in profit, majority 147 entrepreneurs have achieved 1% to 10% increase in number of crafts, majority 66 entrepreneurs have achieved 41% to 50% increase in fishing equipments, majority 50 entrepreneurs have achieved 31% to 40% increase in employment for the past five years from 2001 to 2006.

- Among the two groups namely low mean score on prospects of fishery entrepreneurs (Group I: n1=75) and high mean score on prospects of fishery entrepreneurs (group II:n2= 60), with 9 Predictor variables the Discriminant analysis identified the four variables namely EQUIPM-X8, PROFIT-X6, SALE-X2 and EMPLOYME-X9 are substantially important variables in discriminating between groups namely entrepreneurs with low overall agreeability score and entrepreneurs with high overall agreeability score on prospects of fishery entrepreneurs.

- The inter-correlation matrix showed that there is significant relationship between the economic variable’s scores namely increase in
production- X1, increase in sales-X2, increase in investment-X3, increase in own capital-X4, increase in revenue-X5, increase in profit-X6, increase in number of boats-X7, increase in number of equipments-X8 and increase in employment-X9.

- The multiple regression model for Y-Production indicated that out of the 8 explanatory variables, 3 variables namely, X7-, X2- and x3- have significantly contributed to Y-Production as their ‘t’ values are significant and explained the variations of Y-Production to the extent of 22.9 %.

- The multiple regression model for sales indicated that out of the 8 explanatory variables, 3 variables namely, X6-, X5- and X4- have significantly contributed to Y.-sales and explained the variations of Y-Production to the extent of 16.5 %.

- The multiple regression model for Revenue indicated that out of the 8 explanatory variables, 5 variables namely, X7, X5, X2-, X4- and X6- have significantly contributed to Y-Revenue and explained the variations of Y-Production to the extent of 35.5 %.

- The multiple regression model for Employment indicated that out of the 8 explanatory variables, 5 variables namely, X3-, X6-, X2-, X9- and X7- have significantly contributed to Y-Employment and explained the variations of Y-Production to the extent of 35.5 %.
8.3. Suggestions

In the light of these findings a few suggestions are offered to improve the development of fishery entrepreneurs in Chennai City.

8.3.1. Socio-economic conditions

- The most felt problem of fishery entrepreneurs is shortage of land for housing and the second major problem is safe drinking water and toilet facilities. It is suggested that the government should take remedial measures to provide land for housing at concessional rates, toilet facilities, more water tanks, pipe lines and street pumps may be constructed and the water distribution system in the interior areas has to be extended to coastal villages.

- Literacy level should be improved among fishermen as well as fisherwomen through vocational courses and training programmes so that subsidiary occupation could be created.

- Fishermen families with large number of children and less income are suffering from acute poverty. For the improvement of the socio-economic status of fishermen, family planning programmes should be implemented effectively.

- There is rivalry and conflict among the mechanized, motorized and traditional craft fishery entrepreneurs over fishing space and fish resources, often resulting in clashes in the open sea. In order to avoid these clashes and to protect the interests of traditional fishery entrepreneurs and to give more powers to state in this regard Marine Fisheries Regulations Act was passed by all maritime states in India. But this legislation, due to poor implementation of the restrictions on
fishing by mechanized boats, remains only on paper. Hence it is suggested that Tamil Nadu Marine Fisheries Regulation Act 1983 and its rules be amended suitably to avert clashes, protect the interests of artisanal sector fishermen and to improve fish production and biodiversity in inland and marine waters. The Act should not permit trawling in inshore areas because it destroys marine ecosystem and marine life ultimately causing depletion of fish resources. However, the trawling may be permitted in the mid-sea.

• The study revealed that the expenditure on liquor, which was found to be a stable item for fishery entrepreneurs, plays havoc on the living standard of fishery entrepreneurs, retaining them at the lowest rung of socio-economic ladder. Hence some measures that may discourage the liquor consumption habit of fishery entrepreneurs are needed. It is suggested that de-addiction centers with four facilities – medicine, meditation, counseling and financial aid- have to be launched in each coastal hamlet. While medicine cures biological diseases, meditation gives spiritual strength that controls inner conscience and imbibes moral fear for consuming liquor. Through counseling the addict is appraised of possible life risks involved in reverting to liquor consumption and he should also be given guidance about future. After giving biological cure through medicine, inserting spiritual strength and moral fear through prayer and giving the future course of action through counseling, the de-addiction process ends with placement of addict with right jobs that give permanent source of income, in case he didn't have it earlier. The process necessarily involves the combined
role of physicians, priests, counselors and financiers. A follow-up team should also be set up to monitor the performance of rehabilitated / de-addicted persons.

- Fishermen may be made to know the evils of consuming alcohol and the benefits of peaceful living with his fellowmen.
- The measures like ban on purse seining and fishing ban during fish breeding season, aimed at the conservation and management of marine fishery resources, should be implemented more effectively.
- The Department of Fisheries in consultation with the Life Insurance Corporation of India may draw a comprehensive life insurance scheme to cover all the sea-going fishermen. The government may be persuaded to bear a portion of the premia. The extension of insurance cover to fishermen will enable the lending agencies to cover the loan.
- Saving-cum-relief measures should be extended to female members also because there are families with women as bread winners. Death-cum-accident benefit scheme is also presently available for only male members of the society. This should be extended to female members.
- Savings-Cum-relief Scheme may be extended to fisherwomen also and pension may be provided to fishermen above 60 years of age.
- Fish workers unions, boat owners associations and trade unions of the neighbour countries have repeatedly appealed to the concerned authorities to release the innocent fishermen and called for bilateral agreement towards working out a long term solution
- Advance information on natural calamity, protection measures, insurance and compensation aspects be given due importance.
• For the past five years the economic position of the fishery entrepreneurs has considerably decreased partly due to the onset of tsunami to the extent that they sell their kidneys for their living and some have attempted suicide. At many times the NGO’s funds do not reach the fishery entrepreneurs as it should be. A separate committee should be created to monitor and to see that the funds reach the victims on time.

8.3.2. Production Practices

• The most essential reason to enter fishing occupation is poverty and to provide support to the family needs and assisting the parents in their traditional job. So, the government can take necessary steps to implement the “education for all” principle in the fishermen society. This can marginally bring down the child labour menace among the fishery entrepreneurs. The parents should be given awareness program leading to care about their children’s education.

• During the lean season which begins from October and ends with December, the fishery entrepreneurs do not even get enough income just to run their families. The current subsidy amount of Rs. 800, during the restriction period which spans 45 days from April 15, doesn’t fulfill the basic needs. In order to support the families during the restriction period the banks can provide interest free loan on installment basis and on their peak season the fishery entrepreneurs can collect a particular amount in small groups or in corporate societies and this fund could be dispatched while on restrictions.
• Fishery entrepreneurs do not get loans without security by which they are considerably affected. It is better that the government should ensure that the banks provide loans without security like that of education loan to the fishery entrepreneurs.

• To reduce production cost, steps may be taken to cancel taxes on imported inboard and outboard motors.

• Fishery entrepreneurs may be given training in handling, repairing and overhauling marine engines.

• It has been observed that price of catamaran logs has been fast escalating in recent years and the catamaran fishermen who are only at subsistence level of operation find it difficult to replace the old logs with new ones. Hence logs can be supplied to catamaran operators at subsidized rates by the Forest Department of State Government.

• Since small ice-plants are not economical, supply of ice through mobile insulated ice vans to important fishing centers may be considered by the Government, especially to assist the small-scale fisheries.

• The Fisheries Department at the State level and Central Level must be empowered to fix minimum price at least on the leading varieties of fish in order to control fluctuation in the prices of fish.

• Much useful and practicable EDP training be given to the young fisher men and women.

• Due to lack of life security, poverty, lower wages and high risk, the fishery entrepreneurs are willing to change their profession. Since they are not educated they do not know any alternate job to earn their living. Fish processing units and marine products units may be established by
entrepreneurs with the support of the government for providing employment opportunities to fishermen and fisherwomen.

8.3.3. Marketing Practices

- Marketing has been one of the acute problems faced by fishery entrepreneurs. In order to eliminate intermediaries it is recommended that the government should establish a marketing system which would achieve a smooth flow of fish from the source of production to the marketing centers thereby small fishery entrepreneurs can reap the benefits of market price and avoid selling their catch to the middlemen at an unjustifiable low price.

- Another problem closely related to marketing is that transport facilities to meet the needs of small fishermen. It is recommended that fish transport facilities including railway carriages should be expanded significantly to achieve better marketing.

- The co-operative societies should make available, ice plants, cold storages and processing units to its members on rental basis.

- The Government should regulate marketing functions through co-operatives. This step has two fold benefits. One is collection of loan outstanding from the members as a deduction from catch value. Secondly the undue advantage taken by the middlemen can be avoided. This will eliminate other related problems like under-bidding and un-remunerative price for catch.

- The fishery entrepreneurs buy their fishing equipments from the seaboard market and village market and often the agents charge double the price and cheat the fishery entrepreneurs. The government
can take up selling the fishing equipments, like that of fertilizers and other raw materials, and distribute them on an affordable price in order to help the fishery entrepreneurs to buy their fishing articles on low price.

8.3.4. Financing Practices

- It may not be possible to wipe out the money lenders completely since they form an integral part of the socio-economic system of the fishing villages. However it is within the power of the government, to regulate it in the following ways:
  a. Maintenance of accounts in prescribed form.
  b. Fixation of maximum rate of interest.
  c. Protection of debtors from intimidations.
  d. Furnishing of receipts and periodical statements.
  e. Licensing of money lenders.

- The lending policies and procedures of banks and co-operatives should be streamlined so as to give adequate and timely credit to fishery entrepreneurs. In regard to loan operation the emphasis should be given both for productive and un-productive loans. Procedures should be so designed that borrowers should get loan in time with least difficulty.

- Credit facilities should be provided liberally for the purchase of crafts and gears at lower rates of interest with a longer repayment schedule. Up-to-date information regarding availability of credit facilities should be given to members.
• Adequate credit facilities should be given to women members to start subsidiary occupation, so that they can improve their family income. Through effective credit system middlemen domination can be totally eliminated.

• Banks must assist by providing liberal loans for motorized and traditional crafts. Instead of giving huge loans to a few big boat operators, a large number of small boat operators may be assisted to improve the economy of persons on the borderline of poverty. Differential rate of interest for traditional fisheries will help to lift this segment from the bottom of economic ladder.

• The middlemen or moneylenders who advance money to the fishery entrepreneurs take over the catches on lending and they decide the price and mode of sale. Hence it is suggested that there should be legislative measures, which should assure exclusive rights to first sale of fish to the producer-fishermen.

• Committed educated youths can conduct more seminars so as to educate the fishermen to manage their income in the best ways cutting down unnecessary expenses.

• Saving should be encouraged by giving awareness about saving in the Insurance Company, saving in the banks, saving in the Post Offices etc.

• Loan facilities and subsidy for craft, equipment, diesel and oil should be extended to the poor and needy fishermen community.
8.4. Conclusion

This study has been undertaken mainly to help the Government and Non – Government organizations to take up policy decisions and formulate suitable schemes and programmes to restructure the socio-economic conditions, fishing problems, marketing problems, financial problems, and factors influencing the fishery entrepreneurs in Chennai City. This study has attempted to give a picture of longstanding socio-economic backwardness of the fishermen community.

The suggestions put forth in this study, it is hoped, will serve as a decision support in solving many problems of fishery entrepreneurs who, for centuries, have been economically poor and down-trodden, socially marginalised, culturally backward and politically non-existent. The government has to play a major role in this regard and give protection to fishery entrepreneurs who migrate to other places for fishing. Based on the experience of the researcher, the following issues have been identified for further research:

- Problems and Prospects of Inland Fishery Entrepreneurship in Chennai City.
- A Study of Fishermen Co-operatives in Financing Fisheries in Tamil Nadu.
- A Study on Income and Expenditure Pattern of Fishermen in Tamil Nadu.
- A Study on Demand and Supply of Financial assistance to Fishermen in Tamil Nadu.
- A Study on Marketing Strategies of Fishery Entrepreneurs in Tamil Nadu.
- A Study on Export of Marine Products in India.