EXTENT OF ADOPTION OF IMPROVED ON-BOARD FISH HANDLING PRACTICES

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ABSTRACT

This study deals with the extent of adoption of recommended practices by prawn peeling/fish pre-processing sheds and relationship between socio-economic characteristics of selected respondents of fish pre-processors (prawn peeling/fish pre-processing sheds) with their adoption behaviour. The study revealed that extent of adoption was quite high among the respondents for the complete sheltered building for peeling (92.50%) and chilling of raw material during pre-processing at every stage (57.50%). The standardized partial regression coefficients of two variables viz., number of days employed / year and experience were positively and significantly contributing the variation of the knowledge level of fish pre-processors. Out of the fourteen selected independent variables of fish pre-processors studied, only the standardized partial regression co-efficient of debt had significant and positive contribution towards the variation in the skill level of fish pre-processors and experience had significant and positive contributions towards the adoption behaviour of fish pre-processors.

Key words : Extent, Adoption, Fish Pre-Processing and Fish Pre-Processors

INTRODUCTION

Fish is a highly perishable commodity and its spoilage starts the moment it is taken out of water. Spoilage is brought about by bacteria, enzymes as also due to intoxication of fat. Spoilage fish is one that is less acceptable to the consumer or even totally inedible. Whether the fish is intended for distribution as fresh fish or for further processing its acceptability will depend on the condition of the raw material. Its quality will depend on how it has been handled on-board, how it is preserved, packaged, transported etc. Thus, the primary responsibility to ensure the quality of the fish rests with those who handle it on-board. Further, by knowing level of adoption it is possible to identify the extent of gap available in knowledge, skill and adoption level, which can easily be bridged by transferring suitable technologies. Keeping the above in view, this study was conducted with the following specific objectives : (1) To study the extent of adoption of improved on - board fish handling practices (2) To study the relationship between socio-economic characteristics of selected respondents of trawler owners/partners with their adoption behaviour.

The on - board fish handling technologies are very much related with the fish pre - processing and fish processing technologies, which have been developed and perfected by institutes like Central Institute of Fisheries Technology. Joseph (1979), Mathan(1979), Kandoran et al, (1997), Balachandran (1992), CIFT & SOFT (l) (2000) & Marine Products Export Development Authority (MPEDA, 1994).

METHODOLOGY

The study was conducted among the trawler owners/partners in Eranakulam district of Kerela state. The selected 6 practices viz., sorting of fish, washing of fish in clean sea / fresh water, storage of fish in fish boxes or fish hold with ice, careful handling of catch, use of ice fish ratio and ice - water slurry, were carefully verified with the help of fishery technologist under which original adoption. Seventeen socio - economic characteristics namely, age, education, occupation, size and type of family, debt, social participation, crafts ownership, nets ownership, annual income, total investment, number of crew members, experience, fishing days/year, sources of information, contact with extension agency, exposure to media and perception of profitability and 3 dependent variables such as knowledge level, skill level and adoption behaviour of trawler owners/partners were selected for the study. The data were collected through interview schedules/ questionnaires from 40 selected respondents at random. The collected data were analyzed by using statistical methods like, frequencies/numbers, percentage analysis, correlation, regression etc.

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RESULTS AND DISCUSSION

Extent of adoption of improved on - board fish handling practices–From table 1. it could be seen that maximum non - adoption was reported for the practice of use of ice - water slurry (87.50%) whereas, 2.50% of them did not adopt the practice of storage of fish in fish boxes or fish hold with ice. This might be due to the lack of facilities and the practice was not needed for storage of fish in fish boxes or fish hold with ice. In respect of ice-water slurry, this might be due to the lack of interest and the practice was not needed for selected species.

Table 1. Extent of adoption of improved practices of on - board fish handling method (in terms of adopters) N=40

S. No.	Improved Practices	Non-adopter		Low adopter		Partial adopter		Full adopter	
		No.	%	No.	%	No.	%	No.	%
1.	Sorting of fish.	0	0.00	1	2.50	17	42.50	22	55.00
2.	Washing of fish in clean sea/fresh water.	0	0.00	1	2.50	15	37.50	24	60.00
3.	Storage of fish in fish boxes or fish hold with ice.	1	2.50	3	7.50	18	45.00	18	45.00
4.	Careful handling of catch.	0	0.00	3	7.50	27	67.50	10	25.00
5.	Use of ice fish ratio.	0	0.00	2	5.00	27	67.50	11	27.50
6.	Ice-water slurry.	35	87.50	0	0.00	1	2.50	4	10.00

It is clear from the table no 1 that the maximum number (67.50%) of partial adopters was found in careful handling of catch and use of ice fish ratio. The partial adoption of these practices by the trawler owners/ partners might be due to willingness on business, compulsion, easy availability of facilities, used by maximum fishermen and problem in selling the catch.

The extent of adoption was high among the respondents for the two practices viz. washing of fish in clean sea / fresh water (60.00 %). and sorting of fish (55.00%). This might be due to the acceptability of good quality fish by the users.

Socio-economic characteristics of trawler owners/partners with their adoption behaviour– Correlation co-efficient was carried out to know the relationship between socio-economic characteristics of trawler owners/partners with their knowledge, skill and adoption behaviour of improved on - board fish handling method.

The result indicated that (table 2) the annual income of the trawler owners/partners showed positive and highly significant relationship with knowledge level. This indicated that the trawler owners/partners who had higher annual income showed high knowledge level. The respondents with high annual income had the tendency to adopt improved on-board fish handling practices, so it naturally resulted in the improvement of skill level also. The contact with extension agency of the trawler owners/partners showed negative and significant relationship with skill level.

Table 2. Correlation of selected independent variables of trawler owners / partners with their knowledge level, skill level and adoption behaviour (N=40)

Variables No.	Selected independent variables	Correlation Co-efficient		
		Knowledge level (Y_1)	Skill level (Y_2)	Adoption behaviour (Y_3)
X_1	Age	0.2432	0.0534	0.2672
X_2	Education	0.0282	0.0479	0.1140
X_3	Occupation	0.2553	-0.2688	0.0403
X_4	Size and type of family	-0.1482	0.1918	-0.0169
X_5	Debt	-0.0940	-0.1906	0.0954
X_6	Social participation	-0.1799	0.0201	-0.0144
X_7	Crafts ownership	0.0564	0.1304	0.1775
X_8	Nets ownership	0.1175	0.2122	0.2125
X_9	Annual income	0.4660**	-0.0943	-0.0596
X_{10}	Total investment	0.1539	-0.2133	0.2195
X_{11}	No. of crew members	-0.1645	-0.0544	0.0238
X_{12}	Experience	0.2077	0.0429	0.1069
X_{13}	Fishing days / year	-0.1168	-0.3007	0.0556
X_{14}	Sources of information	-0.1185	-0.2120	-0.0690
X_{15}	Contact with extension agency	-0.0283	-0.3183*	-0.0423
X_{16}	Exposure to media	-0.1249	-0.1073	0.0157
X_{17}	Perception of profitability	-0.0588	0.0517	0.0170

** Significant at 0.01 level of probability,

* Significant at 0.05 level of probability

The on - board fishing is a family enterprise. The elderly fishermen used /engaged their heirs in this business due to the need for higher family income or to provide employment opportunity. This practice was followed generation after generation as continuous process. These new entrants used to learn the skill through their elders than from the extension agency. So the extension contact and skill of on - board fish handlers had negative relationship.

The multiple regression analysis (table 3) of socio - economic characteristics revealed that the R^2 value of skill level was found to be 0.6345 and indicated that the 17 selected independent variables of trawler owners / partners taken together explained for 63.45% of the variation in the skill level of trawler owners / partners. The R^2 was tested for its significance and F value was found to be significant at 0.05 level of probability. The partial regression co - efficient indicated that a unit increase in the level of net ownership would increase 0.4151 unit increase in the respondent's skill level.

Table.3. Multiple regression of socio - economic characteristics with knowledge, skill and adoption behaviour N=40

Socio - economic characteristics	Partial regression co - efficient		
	Knowledge	Skill	Adoption
Age	-0.0008(-0.139)	0.0091(-0.449)	0.0163(0.605)
Education	0.0045(0.316)	0.0033(-0.268)	0.0082(0.426)
Occupation	0.0771(1.356)	0.0507(-1.084)	-0.0001(0.056)
Size & type of family	0.0090(0.447)	0.0910(1.484)	0.0074(0.406)
Debt	0.0478(-1.051)	0.0345(-0.887)	-0.0003(-0.081)
Social participation	0.0322(-0.855)	0.1088(-1.639)	0.0146(-0.571)
Crafts ownership	0.0134(-0.546)	0.0188(0.649)	-0.0001(-0.058)
Nets ownership	0.0476(1.049)	0.4151(3.951**)	0.0881(1.458)
Annual income	0.0561(1.143)	0.1310(-1.821)	0.0417(-0.978)
Total investment	0.0182(0.639)	0.0047(-0.324)	0.0062(0.370)
No. of crew members	0.0820(-1.402)	0.0733(-1.319)	0.0022(-0.220)
Experience	0.0410(0.970)	0.0671(1.258)	-0.0008(0.138)
Fishing days / year	0.0019(-0.203)	0.0436(-1.001)	0.0118(0.512)
Sources of information	0.0019(-0.205)	0.0981(-1.547)	0.0252(-0.754)
Contact with extension agency	0.0574(-1.158)	0.1009(-1.572)	0.0137(-0.552)
Exposure to media	0.0265(0.774)	0.0036(-0.283)	0.0013(0.172)
Perception of profitability	0.0299(-0.824)	0.0273(-0.785)	-0.0007(-0.130)
R^2	0.4689	0.6345	0.2545
F	1.143 NS	2.247*	0.442 NS

Figures in the parenthesis indicates 't' value,
** Significant at 0.01 level of probability,
* Significant at 0.05 level of probability,
NS =Non - Significant

Implications–The on-board fish handlers with higher annual income showed higher knowledge level. This showed that the on - board fish handlers with low income (who always engaged in fishing) deprived of this opportunity to learn new technology. Arrangements can be made to reach them our research by making special efforts by identify their leisure time, place and their skill level of knowledge. The skill level of the on - board fish handlers can be further improved by giving training programmes so that it may achieve their experience with theoretical background. As like above, the net ownership pattern positively improved the skill level. Therefore, by providing credit facility to increase the net ownership pattern will further improve their skill in on - board fish handling practices.

CONCLUSION

The selected independent variables showed a significant contribution towards the skill level of the on - board fish handling, where as the knowledge level and adoption behaviour did not show any significant variation with the selected independent variables. This showed that the inadequacy in the selected socio - economic characteristics towards the knowledge level and adoption behaviour. This indicates the gap in the transmission of users also from the source to users. The inadequacy in their education, training, credit facility, other infrastructure facility also cause this insignificant variation in the knowledge level and adoption behaviour. If these things are remedied through extension programmes and Governmental assistance, the general adoption behaviour of on - board fish handlers can be improved.

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