

## **Knowledge and Achievement Motivation of Marine Fishers : A Case of Alternate Livelihood Options in Tamil Nadu**

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### **ABSTRACT**

In recent past, farming of marine fishes is being encouraged among the marine fishers to supplement the household income from capture fisheries, because the fish catch is declining. The study on extent of knowledge and achievement motivation of marine fishers' adopting alternate livelihood options like sea cage farming, seaweed farming and ornamental fish culture was conducted in Ramanathapuram district of Tamil Nadu since many marine fisheries related activities are being undertaken in larger scale in comparison to other coastal districts. Overall analyses on level of achievement motivation reveal that majority of respondents who are adopting the alternate livelihood options are having medium to high level of achievement motivation. All the farming options have to be undertaken in the sea, which is a common property and it demands a common consensus in a particular village or region for taking up an activity in a desirable and profitable way. Hence, the need for personal achievement was present in majority of fishers, followed by personal achievement oriented influence and need for social achievement. The study found that fishers were able to perform better in the knowledge test since they gained adequate knowledge on all the alternate livelihood options.

**Key words:** Alternate livelihood options, knowledge, achievement motivation, marine fishers

### **INTRODUCTION**

Tamil Nadu state with the second longest coastline in the country covers an area of 1,076 km comprising 13 coastal districts. Ramanathapuram district is an important coastal district contributing 27 per cent of fish production of Tamil Nadu. There are 178 fishing villages, with nearly two lakhs fisherfolk population in the district, which comprises 24 per cent to the total fishermen population in Tamil Nadu (CMFRI, 2010). The fish catch or harvest from marine capture fisheries is in a stagnation phase over the last few years, which has led to reduction in fish catch (Modayil, 2007). In order to address the issue of declining capture fisheries, the major management strategy being followed worldwide is the adoption of fishing holidays. The demand for fish is increasing year after year as it is an important source of protein and it is an essential nutrient to poorer section of the society. Hence in future years the additional marine fish requirement has to be met by farming-Mariculture.

In this context, lucrative options like farming of marine fishes in sea cages, seaweed farming and marine ornamental fish culture is being encouraged to

supplement the household income from capture fisheries. The message about alternate livelihood options has reached the fishermen of the area through different training, awareness and frontline/participatory demonstration programmes. At present, many fishermen groups are adopting those livelihood options. It was necessitated to know the important attributes, their level of knowledge and achievement motivation which enabled them to adopt alternate livelihood options.

### **METHODOLOGY**

The study was undertaken in Ramanathapuram district of Tamil Nadu. A total of 6 villages namely, Mandapam, Munaikadu, Marakayarpatinam, Thangachimadam, Olaikuda and Rameswaram in Ramanathapuram district were selected for the study, since sea cage farming, seaweed farming and ornamental fish culture are being adopted in these villages. A total of 100 fishermen who are engaged in those farming activities were selected through proportionate random sampling technique. Data collection was done through interview method and focused group discussion.

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Achievement motivation has been conceived as an urge to improve oneself in relation to a goal. It is the disposition to strive for satisfaction derived from success in competition with some standard of excellence (de Charmas, 1961). A projective technique called TAT (Thematic Apperception Test) was used to ascertain the level and intensity of achievement motivation through imaginative writing. The standard procedure developed by McClelland *et al.*, (1958) was followed in scoring achievement motivation.

Based on the scoring procedure, an individual score on TAT was worked out. The categorization of respondents into low, medium and high level of achievement motivation was done based on the criteria mentioned in Table 1.

**Table 1: Criteria for categorizing the respondents into low, medium and high level of achievement motivation**

Criteria	Category
If an individual scored less than '5' in TAT	Low Level of Achievement Motivation
If an individual scored between '5 to 7' in TAT	Medium Level of Achievement Motivation
If an individual scored above '7' in TAT	High Level of Achievement Motivation

The story was further evaluated based on the procedure developed by Mehta (1976) with slight modifications. The scoring system developed by Mehta (1987) was also used for this study. The scores were tabulated; analysed and suitable interpretation was made.

A knowledge test was developed and administered to ascertain the level of knowledge of respondents on alternate livelihood options. The procedure suggested by Anastasi (1961) and followed by Srinivas *et al.*, (2014) and Naveenkumar and Sendilkumar (2015) were adopted for standardizing the selected items. The items having discrimination index greater than 0.1 and difficulty index value between 20 and 80 were considered (Kumari and Husain, 2016) and total of 15 items were included in the final knowledge test. The respondents were asked to indicate their responses to each question in the knowledge test, and the correct answers, were assigned a score of '1' and incorrect answers a score of '0'.

Percentage analysis and Garrett ranking were used to process the data and to arrive meaningful conclusions.

## RESULTS AND DISCUSSION

### Adoption of alternate livelihood options by marine fishers

Majority of the fishers are adopting the seaweed farming since 2004, in Ramanathapuram district of Tamil Nadu. Seaweed farming technology has better adoption

among the coastal fisherfolk since it is a low cost simple technology and provides substantial returns throughout the year. One-fifth of the respondents were adopting sea cage farming as an alternate livelihood option in this region. The sea cage farming of selected marine fishes was introduced during 2011-12. As it is in take off stage, the number of fishers adopting the technology is less in comparison to seaweed farming. Only, few per cent of fishers are adopting the ornamental fish culture and farming of marine fishes in sea cages by integrating with seaweed.

**Table 2: Adoption of alternate livelihood options by the fishers n=100**

Alternate livelihood options	Frequency	%
Farming of marine fishes in sea cages	20	20.0
Seaweed farming	72	73.0
Ornamental fish culture	3	3.0
Farming marine fishes in sea cages integrating with seaweed	5	5.0

**Table 3: Important attributes which attracted the fishers to take up the alternate livelihood options n=100**

Attributes	Garrett Rank
Over exploitation of trawling grounds led to reduction in fish catch	I
Farming near the seashore	IV
Easy farming methods /technology	II
Better economic returns	III
Marine fishery based alternate livelihood options were easily accepted and adopted	V

Garrett's ranking technique was used to identify and rank the attributes which attracted the fishers to take up the alternate livelihood options (Table 3). The important attributes which attracted the fishermen groups were:

In comparison to declining catches, sea cage and seaweed farming related advantage in enhancing the marine fisheries production and in turn increases the income of the fishers. The existing alternate livelihood options were perceived simple technology and easy to adopt, hence the degree of complexity was less. Due to over exploitation of trawling grounds, there was a decline in catches and consequent reduction in profit. Hence, fishers were in need of alternate livelihood options related to marine fisheries. The sea cage and seaweed farming technologies were readily accepted by the fishers since it can be carried out near the seashore area as such having comparability. The yield and economic returns from the alternate livelihood options was easily visible to others, which is one of the important reasons for the spread of those technologies. Innovations were easier to adopt if they can be tried out in part, on a temporary basis, or easily dispensed with after trial" (Rogers, 1995). Both seaweed

farming and cage farming were initially tried by the fishers on trial basis and later based on the high economic potential they continued the adoption of those technologies.

**Level of Achievement Motivation**

**Table 4: Overall distribution of respondents based on their level of Achievement Motivation**

n=100

Low level of Achievement Motivation	Medium level of Achievement Motivation	High level of Achievement Motivation
20 (20 %)	45 (45 %)	35 (35 %)

Level of achievement motivation based on McClelland *et al.*, (1958) scoring procedure found that majority of respondents who are adopting the alternate livelihood options were having medium level of achievement motivation. In spite of getting good profit, they are not interested in starting other options in the near future. They successfully sustain and manage the present activity. More than one-third of the respondents possessed high achievement motivation. They were successfully undertaking the farming activities for longer period. Some are farming marine fishes in sea cages by integrating with seaweed. Mostly seaweed farmers had mastered and become experts in farming activities. One-fifth of the respondents showed low level of achievement motivation. They were just surviving on the margin between success and failure. It is tough for them to handle any difficult or uncertain situation. The study derives support from Shah *et al.*, (2010) who has reported that majority of the dairy entrepreneurs had medium level of achievement motivation.

Further, need for achievement motivation was studied based on Mehta (1987) scoring procedure and presented in Table 5. It is evident that the need for personal achievement was present in majority (85%) of fishers, followed by personal achievement oriented influence which was found in 48 per cent of fishers. Nearly 43 per cent of fishers were observed with need for social achievement. The need for personal achievement, personal achievement oriented influence and social achievement were the most prominent need among the fishers. Though many alternate livelihood options are a group activity, there is a need for achieving high personal income. The need for personal achievement oriented influence and need for social achievement is essential in maintaining the cordial situation among the fellow fishers, marketers, researchers, development agencies and industry representatives. Moreover need for social achievement is high since all the farming options have to be undertaken in the sea, which is a common property and

it demands a common consensus in a particular village for taking up an activity in a desirable and profitable way.

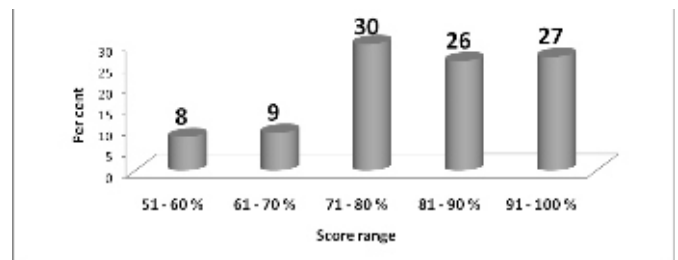
**Table 5: Percentage distribution of stories scored for respective needs of respondents for achievement motivation**

n=100

Needs	%
Personal achievement (PA)	85.00
Social achievement (SA)	43.00
Influence (Inf)	20.00
Personal and social achievement (PA+SA)	10.00
Personal achievement oriented influence (Inf+PA)	48.00
Social achievement oriented influence (Inf+SA)	5.00
Personal and social achievement oriented influence (Inf+PA+SA)	3.00

**Level of knowledge**

Distribution of respondents based on the percentage of score obtained is presented in the Fig 1. It was found that majority of the respondents obtained above 70 per cent of score. The seaweed farming technology is being adopted for many years by the fishers in this region and they are also familiar about other livelihood options, hence they were able to score more in the knowledge test. Very few fishers obtained 50 to 70 per cent score, because they were yet to gain adequate knowledge on alternate livelihood options.



**Fig 1. Distribution of respondents based on the percentage of score obtained in knowledge test**

**CONCLUSION**

Marine fisheries sector in Ramanathapuram district of Tamil Nadu is witnessing over exploitation of trawling grounds, declining catches and consequent reduction in profit. In such scenario, the marine fishers group has well understood that the sea cage farming, seaweed farming and ornamental fish culture will serve as best alternate livelihood options to them. The study found that fishers gained adequate knowledge on all the alternate livelihood options. The study found that the need for personal achievement, personal achievement oriented influence and social achievement were the most prominent need among the fishers. Obtaining high personal income through the farming activities is the prime most need among the fishers. As most of the farming activity is to be

undertaken in the sea, which is a common property, there is a need for personal achievement oriented influence and social achievement.

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