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Training Needs of Shrimp Farmers – An Assessment

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Thirty shrimp farmers were interviewed in Nagapattinam coastal district of Tamil Nadu, India to assess their training needs. Personal profile of the farmers was found to be of high level and their relationship with training needs was not significant. The farmers desired to acquire necessary knowledge and skills to deal effectively with disease menace, seed quality, pond management and recent developments in aquaculture for sustainable shrimp production. Transfer of technology and human resource development programmes of the research organization and extension activities of the State fisheries departments may be intensified incorporating these training needs.

Keywords: Human resource development, training need assessment, technology transfer, shrimp farming

Human resource development (HRD) is an indispensable part of extension science and is widely regarded as the single most important resource for speedier socio-economic development (World Bank, 1990). Training is a planned and systematic effort to increase knowledge, improve skills, inculcate appropriate attitudes and develop favourable other attributes to enable an individual to do better in his/her job (Misra, 1990). Training helps not only in honing one's skills but also in updating them. Training need assessment is a process of systematic identification of the needs and problems of a specific target group (Smith *et al.*, 1991). Shrimp farming involves high social, economic and environmental stakes and identifying training needs of shrimp farmers at regular intervals followed by appropriate training could be a viable strategy for the sustained growth of this industry. Keeping this in mind, a study was taken up to assess the training needs of shrimp farmers and suggest means for extension.

Materials and Methods

The investigation was taken up during February 2000, in Nagapattinam district of Tamil Nadu, which is one of the shrimp farming "hot spots" along the east coast of India. A sample of 30 farmers was selected from three creeks in the study area, viz., Vettal creek, Kaduviar creek and Vellaiyar creek. In order to identify the training needs, the entire shrimp farming operation was divided into 10 sub items as suggested by subject matter specialists. These were site selection and farm construction, pond preparation, seed selection and stocking, feed management, pond management, health management, advances in shrimp farming, sustainable shrimp farming, group farming/ cooperative farming and socio-economics and environmental consequences of shrimp farming.

The training needs were assessed by means of a three-point continuum namely 'most needed', 'somewhat needed' and 'least needed' which were assigned scores of 3, 2 and 1, respectively (Sailaja & Reddy, 1999). A training need index was calculated using actual/maximum possible score method based on adding the scores expressed by the farmer on all items. Ranking was given to training needs based on their total individual scores. Socio-personal, socio-economic and socio-psychological variables, fourteen in number, (Table 1) were studied by using appropriate tools (Kumaran, 1998)

to understand the profile of farmers and their relationship towards training needs. Data were collected by employing a well-structured and pre-tested interview schedule. Frequency distribution, mean, percentage, correlation analysis and t tests were used for analysis and interpretation.

Results and Discussion

The findings of the study regarding the profile of the farmers are presented in Table 1. It maybe seen that most of the respondents were less than 50 years of age and had collegiate and above level of educational status. The innovative nature of the enterprise could have attracted young and highly educated people. Majority of the respondents (66.67%) had other occupations in addition to shrimp farming and this may be due to the risk and cost intensive nature of shrimp enterprise. About 80% of respondents had farm size of less than 4 ha. The experience of the respondents varied from 2 to 9 years. Almost all the farmers were practising modified extensive farming of *Penaeus monodon* with 5-6 nos. of post larvae per m^2 The annual income of the respondents varied from Rs. 30,000 to 5,00,000 because of their differential occupations. Majority of the respondents (60%) availed credit from banks or private money lenders.

Farmers were aware of extension agencies of concerned organizations. However, majority of them had limited contacts with these agencies. Most of the respondents had medium to high degree of mass media exposure. They were of the opinion that aquacultural programmes were very rare in mass media channels. The respondents were found to be high risk takers (80%), exhibited high degree of scientific orientation (70%) and economic motivation (73.33%). Fellow farmers and feed company representatives were the prime sources of information. Meeran & Jayaseelan (1999), while studying socio-personal, socio-economic and socio-psychological profile of shrimp farmers, reported similar findings.

Table 1. Socio-personal profile of shrimp farmers

Variables	% of farmers (N=30)
Age	
Less than 50 years	56.67
50 years & above	43.33
Education	
SSLC/H.Sc.	33.33
Graduates and above	66.67
Occupation	
Aquaculture alone	33.33
Aquaculture + others	66.67
Farm size	
Up to 4 ha	80.00
Above 4 ha	20.00
Farming experience	
Up to 5 years	56.67
Above 5 years	43.33
Type of farming	
Modified extensive type	93.33
Annual income	
Less than Rs. 25,000	93.33
Above Rs. 25,000	6.67
Credit orientation	
Obtained	60.00
Not obtained	40.00
Extension agency contact	
Low	40.00
Medium	40.00
High	20.00
Mass media exposure	
Low	13.33
Medium	60.00
High	26.67
Social participation	
Low	6.67
Medium	33.33
High	60.00
Risk orientation	
Low	3.33
Medium	16.67
High	80.00
Scientific orientation	
Low	10.00
Medium	20.00
High	70.00
Economic motivation	
Low	6.67
Medium	20.00
High	73.33

The training needs of shrimp farmers in the order of ranking are presented in Table 2. It was noticed that 90% of the respondents expressed their need to have training on health management. This is because diseases

Table 2. Training needs of shrimp farmers

Training needs	% of farmers (N=30)	Rank
Health management	90.00	1
Recent advances in shrimp farming	74.44	2
Pond management (soil, water quality, etc.)	65.56	3
Seed selection and stocking	63.33	4
Pond preparation	61.11	5
Feed management	52.21	6
Sustainable shrimp farming	48.89	7
Group farming/cooperative farming	48.89	8
Site selection and farm construction	45.56	9
Socio-economics, environmental consequences of shrimp farming	40.00	10

are the major threat to shrimp farming. The farmers showed keen interest to know the ways to prevent the occurrence of diseases, easy ways to detect them and methods of effective disease control. About three-fourth of the respondents (74.44%) desired to be informed of recent advances in shrimp farming. About 65% of respondents opined that they needed training on pond management, especially regarding soil and water quality conditions, water exchange, application of probiotics, etc. This may be due to their understanding that optimum soil and water conditions are critical for a successful crop.

Majority of the respondents (63.33%) wanted training in identification of quality seed, seed testing and stocking. Farmers were of the view that getting good quality seed is one of the major constraints. The need for acquiring the knowledge in identification and detection of healthy seed was also felt and expressed. More than half of the respondents (61.11%) desired to have training in pond preparation, especially on application of correct dose of inputs, proper blooming, optimum levels of various parameters, etc. About half of the respondents (52.22%) desired to have training in feed management – identification of good quality feeds, recommended feeding schedule and method of application. The major expenditure in shrimp farming is on feed and the farmers are for its judicious use.

Nearly half of the respondents required training on sustainable shrimp production including every step from site selection to post harvest management. Equal percentage of farmers were of the view that shrimp farmers need to be educated on group farming. About half of the respondents expressed their desire to be educated on proper site selection and appropriate method of farm construction. Significant number of farmers desired to have training on the social, economic and environmental consequences of shrimp farming, so that they can be prudent enough to make efforts to minimize the unfavourable consequences.

To study the nature of relationship between the personal attributes of shrimp farmers and their training needs, a correlation analysis was carried out. The results of correlation analysis (Table 3) have clearly shown that there is no significant relationship between them. Fourteen variables were taken for analysis and none of the attributes was significantly related. Further, the attributes like age, education and farm size

Table 3. Relationship between personal attributes and training needs of shrimp farmers

Personal attributes	Corr. Coeff. (r)
Age	–0.264 NS
Education	–0.029 NS
Occupation	0.168 NS
Farm size	–0.059 NS
Farming experience	0.022 NS
Type of farming	0.101 NS
Credit orientation	0.062 NS
Annual income	0.012 NS
Mass media exposure	0.109 NS
Extension agency contact	0.136 NS
Social participation	0.284 NS
Risk orientation	0.044 NS
Scientific orientation	0.160 NS
Economic motivation	0.316 NS

NS = Not significant at 0.05 level

were negatively related. It was proved that shrimp farmers, irrespective of their social, economic and psychological standing, were eager to acquire necessary knowledge and skills for obtaining successful crops on a long-term sustainable basis.

It could be inferred from the above findings that most of the shrimp farmers opted for training in one or the other aspect of shrimp farming. Health management, seed quality detection, pond management and recent advances in aquaculture were the major training needs identified. It is suggested that training camps should be organized on the identified aspects at field level with appropriate training modules in simple local language, on learning by doing basis. The transfer of technology and human resources development programmes of the research organizations, promotional agencies and extension activities of the State fisheries departments may be intensified incorporating these training needs.

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