INFORMATION UTILIZATION BEHAVIOUR AND CONSTRAINT ANALYSIS AMONG SHRIMP FARMERS

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Abstract

Information utilization behaviour and constraint analysis among 60 selected Shrimp farmers of Nellore district of Andhra Pradesh was studied. The findings of the study revealed that private consultants followed by feed technicians were the most important sources of information utilized by 76.67 per cent and 71.67 per cent of Shrimp farmers. Among constraints, disease incidence, poor quality of seeds and lack of quality control agencies were expressed by 81.67, 63.33 and 65.00 per cent of the respondents. Among the suggestions offered by the Shrimp farmers, setting up of disease diagnostic centers, seed certifying agencies and quality control agencies for regulating the quality of chemicals accoreded top priority.

INTRODUCTION

Commercial Shrimp farming has emerged as a dominant sector in the Aquaculture scenario of India. India occupies the sixth position in the world with respect to world cultured Shrimp production, whose contribution to the total exports is 85.79 per cent of total Shrimp exports in terms of value (Ranjan, 2002). In this context, the information utilization behaviour of Shrimp farmers assumes paramount significance, which in turn has a direct bearing on the adoption of improved Shrimp culture practices. Further, an analysis of the

constraints faced by the Shrimp farmers would be of vital importance in technology development and technology refinement process.

Hence the present study was undertaken with a view of studying the information sources utilized by Shrimp farmers and also to study the constraints faced by them in Shrimp farming.

Methodology

A total of 60 Shrimp farmers drawn from 6 villages belonging to 3 blocks of Nellore district of Andhra Pradesh were selected randomly by using multi stage random sampling method. The data was collected using a well structured interview schedule. The information sources utilized by the farmers and the constraints faced by them were assessed through simple percentage analysis, and were ranked in order of their importance.

Findings and Discussion

An observation of Table 1 revealed that of the various sources of information utilized by the Shrimp farmers, private consultants were the majur source of information utilized by 76.67 per cent of the farmers.

Table 1
Information source utilization by shrimp farmers of Nellore

(n=60)

S.No.	Information source	Number	Percent	Rank
1	Private consultants	46	76.67	I
2	Feed technicians/dealers	43	71.67	II
3	Fellow farmers	32	53.33	III
4	State department of fisheries	28	46.67	IV
5	Marine products export development authority (MPEDA)	15	25.00	V
6	Research institutions	14	23.33	VI
7	Printed literature from feed companies and research institutions	13	21.67	VII
8	Seminars/workshops by feed companies	8	13.33	VIII

This was closely followed by feed dealers who were the source of information for 71.67 per cent of the farmers. Most of the feed dealers were graduates in biology, and by virtue of their hands on experience

were the second most important source of information on all technical matters like stocking of seed, feed management, water quality management etc. Further perusal of the table reveals that the fellow farmers were reported as the next important source of information by 53.33 per cent of the Shrimp farmers followed by State Department of Fisheries (46.67 %), Marine Product Export Development Authority (MPEDA) (25.00 %), Research Institutions (23.33 %), Printed Literature (21.67 %) and Seminars/Workshops organized by feed companies was regarded as the last source of information by 13.33 per cent of the Shrimp farmers.

This might be because private consultants were mainly graduates in fisheries science, and they represented the private extension service. These consultants visited the Shrimp farms regularly and offered all round technical assistance on the package of practices to be followed for Shrimp culture.

Due to their proximity, easy accessibility and trustworthiness, they were the Primary Credible sources of information for Shrimp farmers. These findings were in conformity with the findings of Immanuel (1998), Ponnusamy (1999) and Kumaran (1999) who reported that private consultants and feed technicians/dealers were the credible and most important source of information for Shrimp farmers in Kerala and Andhra Pradesh respectively. It is interesting to see that fellow farmers were the third important source of information, since they passed the information to their peers by word of mouth.

The government sources such as the State Department of Fisheries came only next in order. Though the government machinery has contributed for the initial promotion of Shrimp culture and popularization of the same, its agenices such as the Brackish water Fish farmers development agency(BFDA) with the district level jurisdiction were ill equipped for transfer of technological innovations as its access to subject matter specialists was limited. The studies conducted by Kumaran *et al* (1999) prove that basic infrastructure for problem solving by the governmental agenices at local level is wanting.

The MPEDA was regarded as the fifth important source of information, since it was the promoter of Shrimp farming and provider of subsidies and training particularly during the initial stages of commericial Shrimp farming.

The table further reveals that Research Institutions had a meager share in the information source utilization by the farmers. The farmers were of the view that the research institutions, government departments and subject matter specialists were difficult to access, and hence they were unable to utilize them effectively for technical information.

The table further reveals that printed literature from feed companies and research institutions followed by seminars and workshops conducted by feed companies were the other sources of information. Based on the relative importance of the source of information utilized by the Shrimp farmers the sources were given ranks ranging from I to VIII.

A perusal of Table 2 reveals that disease incidence, poor quality of seed, lack of quality control agencies, lack of information on market price and interference by middlemen and weed infestation were the major constraints expressed by the respondents and they were ranked in order of importance from I to V.

Table 2
Constraints faced by shrimp farmers in shrimp culture

(n=60)

S.No.	Constraints	Number	Percent	Rank
1	Disease incidence	49	81.67	I
2	Poor quality of seeds	41	68.33	II
3	Lack of quality control agencies	39	65.00	III
4	Lack of information on market price and interference by middle men	37	61.66	IV
5	Weed infestation in culture	32	53.33	V
6	Lack of co-operation among fellow farmers	30	50.00	VI
7	Poor credit and insurance facilities	29	48.33	VII
8	High tariff rates for electricity	28	46.66	VIII
9	Lack of technical guidance	17	28.33	IX
10	Lack of government support	14	23.33	X
11	Incidence of cyclones	12	20.00	XI
12	Losses due to theft	10	16.67	XII

Disease incidence was the foremost constraint expressed by 81.67 per cent of the respondents. This could be because of major diseases like White Spot Syndrome Virus (WSSV) for which no full-fledged control measures have been developed so far. However precautionary measures

in the form of PCR tests are being done in private Shrimp hatcheries, private labs and those of the government like MPEDA (Marine Products Export Development Authority). However such laboratories do not guarantee that samples tested by them would be virus free, as sometimes random samples may not be taken for testing.

Poor quality of Shrimp seeds was a constraint expressed by 55.33 per cent of the respondents. This might be because there is no seed certifying agency at present, which can assure that the quality of seeds sold are good. Lack of quality control agencies was a constraint expressed by 65.00 per cent of the respondents. This is because the chemicals like probiotics and immunostimulants used in Shrimp farming do not have the accreditation of certifying bodies; such as those existing in the agriculture sector. Lack of informtion on market prices and interference by middlemen was a constraint expressed by 61.66 per cent of the respondents. This constraint may be attributed to the lack of market intelligence facilities and also due to lack of exposure about the International prices of Shrimp in the mass media. It was also observed that the small time Shrimp farmers of Nellore mostly sell their produce to exporters through middlemen who pay a relatively lesser value for their produce. This finding is in conformity with the findings of Vasanthakumar (1987), Sriram (2000) and Kumaran (2003).

Weed infestation in culture ponds was a constraint expressed by 53.33 per cent of the respondents. This may be due to the fact that the weeds form a slimy layer over the pond surface and result in oxygen depletion for the animal, thus putting the animals under stress. This finding is in agreement with the findings of Balasubramaniam (1988) who reported that the presence of weeds in fishponds was a constraint in fish culture.

Lack of co-operation among fellow farmers was expressed by 50.00 percent of the respondents. Most of the Shrimp farmers in Nellore district are not members of Shrimp farmers Association and do not take part in joint disease and water management.

Poor credit and insurance facilities were a constraint expressed by 48.33 per cent of the respondents. This might be because most of the nationalized bank like NABARD were providing loans to farmers in the initial stages of popularization of the technology but was discountinued due to poor repayment by farmers. Similarly insurance facilities provided by private insurance agencies were stopped due to

false claims of crop loss given by some Shrimp farmers. High tariff rates for electricity was a constraint expressed by 46.66 per cent of the respondents.

This might be due to the fact that a lot of electricity was required for operating pump sets, aerators, and for lighting facilities in the farm. Lack of technical guidance was a constraint expressed by 28.33 per cent of farmers who mainly depend on private extension services such as aquaculture consultants followed by feed dealers for technical assistance and as such the asssistance from government extension machinery is lacking. Lack of government support in the form of loans, insurance facilities and regulation of quality of inputs was expressed as a constraint by 23.33 per cent of the respondents.

Incidence of cyclones and losses due to theft were two of the minor constraints expressed by 20.00 per cent and 16.67 per cent of the respondents respectively.

It could be observed from Table 3 that most of the respondents (58.33%) have suggested the setting up of disease diagnostic centres in each district, in order to keep diseases such as WSSV and other viral diseases under check. Setting up of seed certifying agencies by the State Fisheries Department was a suggestion offered by 61.67 per cent of the respondents. At present there is no quality control agency/board set up in the government or private sector to guarantee the quality of Shrimp seeds. Sometimes the PCR test undertaken by the private laboratories or by the Government like those of the MPEDA may not consider a random sample for testing with the results that samples which give negative results may sometimes turn out to be WSSV positive in reality.

Setting up of quality control agencies for regulating the quality of chemicals such as probiotics and immunostimulants were expressed by (55.00 %) of respondents. Setting up of market intelligence cell in the State Fisheries Department and communicating information on market price through mass media was a suggestion offered by 51.67 per cent of the farmers. Further observation of the table reveals that strengthening Shrimp farmers association, provision for credit and insurance facilities, speedy settlement of legal hurdles, government support, provision for technical guidance and reduction on electrical tariffs were other suggestions offered by the respondents.

Table 3
Suggestions offered by shrimp farmers to overcome the constraints

(n=60)

S.No.	Suggestions	Number	Percent	Rank
1	Setting up of disease diagnostic centers in each district	35	58.33	I
2	Setting up of seed certifying agencies by the state fisheries department	37	61.67	II
3	Setting up of quality control agencies for regualting quality of chemicals	33	55.00	III
4	Setting up of market intelligence cell in state department of fisheries and communicating the information on market prices through mass media	31	51.67	IV
5	Strengthening shrimp farmers association	28	46.70	V
6	Provision for credit and insurance facilities	24	40.00	VI
7	Speedy settlement of legal hurdles	17	28.33	VII
8	Government support	16	26.67	VIII
9	Provision for technical guidance	12	20.00	IX
10	Reduction on electrical tariffs	11	18.33	X

*Multiple response and hence percentage may exceed 100

The State Fisheries Department, which is solely devoted to extension activities is the need of the hour.

Since disease incidence was rated as a foremost constraint faced by the Shrimp farmers, the Research Institutions should concentrate on the participatroy technology development, involving the Shrimp farmers and further research priorities should be based on production of disease resistant brood stock, production of hybrid genetically engineered disease resistant species of Tiger Shrimp and also on poly culture of Shrimp with compatible fish species for production of disease resistant, cost effective technologies.

The research and extension wings should maintain strong linkages with the extension staff at all levels of hierarchy.

Conclusion

Among the information sources utilized by the Shrimp farmers it was observed that private consultants were the most important sources of information. The private consultants were mostly graduates in fishery

science and they represented the private extension service. However, it could be oberserved that in order of importance the government extension machinery was used as an information source only next in order to private consultants, feed technicians and fellow farmers. Revamping of the extension services provided by the State Fisheries Department would help in the cost effective and efficient transfer of technologies even to the small and marginal Shrimp farmers. Setting up of dedicated, trained and organized extension wing from the top to the grass root level should be undertaken. They should be trained in the research institutions and fisheries colleges on the latest technolgical advancements. The extension farmer linkage can be strengthened by organizing awareness camps, campaign for disease, soil and water management, conduct of demonstrations and mobilization of Shrimp farmers associations, promoting joint disease management and culture operations. Setting up of information shops to give day to day information on climate, season, disease incidence and their control measures are other strategies which would help to popularize the adoption of Shrimp culture technologies by the Shrimp farmers.

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