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Information source utilisation behaviour of shrimp farmers on shrimp farming technologies

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Abstract

Shrimp farming has emerged as an important sector of the Aquaculture industry in the recent times. The present study focuses to find out the sources of information utilized by the Shrimp farmers; about the improved Shrimp farming technologies and constraints faced by them in Shrimp farming. A total of 60 Shrimp farmers drawn from 6 villages belonging to 3 blocks of Nagapattinam district of Tamilnadu were selected randomly by using multi stage random sampling method. The constraints, disease incidence, poor quality of seeds, price fluctuations and lack of information on market prices, lack of co-operation among fellow farmers and lack of quality control agencies were the most important constraints faced by the majority of the respondents and ranked I to V according to their importance. The fellow farmers were rated as the third important source of information, since they passed the information to their press by word of mouth. The government sources such as the State Department of fisheries came only next in order. 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 extension wing of the state fisheries department should be revamped and more number of technically qualified and trained personnel should be appointed at the grass root level to render timely and important information the Shrimp farmers. As far the constrainto expressed by the Shrimp farmers. The government should undertake the setting up of disease diagnostic centers in each district, followed by setting of seed certifying agencies and quality control agencies for regulating the quality of chemicals. The experiences of the government in the agriculture sector such as use of quality control accreditation methods such as Agmark, setting of market information cells, and provision of free electricity can be suitably examined and emulated for the benefit of the Shrimp industry also.

Keywords : Shrimp farmers, behaviour, aquaculture

Introduction

Shrimp farming has emerged as an important sector of the Aquaculture industry in the recent times. Cultured Shrimps contribute about 50 per cent of the total Shrimp exports from India. (1).

The success behind the increased production of cultured Shrimps has been attributed to the production, dissemination and adoption of a number of improved technologies. The information sources and communication channels utilized by Shrimp farmers for building up their knowledge base ultimately leading to the diffusion and adoption process is of vital importance in furthering the development of the Shrimp Industry. The present study focuses to find out the sources of information utilized by the Shrimp farmers about the improved Shrimp farming technologies and constraints faced by them in Shrimp farming.

Methodology

A total of 60 Shrimp farmers drawn from 6 villages belonging to 3 blocks of Nagapattinam district of Tamilnadu 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. The information source utilization behaviour of the shrimp farmers of Nagapattinam, were studied, and the results are presented in Table 1.

A perusal of Table 1 revealed the information source utilization by shrimp farmers of Nagapattinam. It is seen from the table that private consultants are the first hand source of information utilized by 86.67

percent of the respondents, followed by feed dealers and fellow farmers utilized by 81.67 percent and 78.33 percent respectively.

Next in order, the BFDA, which is the extension agency of the State Department of Fisheries, is the source of information for 36.67 percent of the farmers. The BFDA prepares projects, helps in identification of site and project preparation; and distributes subsidies to shrimp farmers.

MPEDA was utilized by 35.00 percent of the respondents as the source of information as it was a promoter of shrimp farming and also provided technical assistance, imparted training and PCR testing facilities to shrimp farmers.

The Research Institutions and printed literature were the next important sources of information utilized by 31.67 percent and 30.00 percent of the shrimp farmers respectively.

From the observation of the above table, the findings clearly indicate the lack of extensive and intensive involvement by the government extension machineries such as the BFDA, MPEDA and research institutions. As far as the utilization of print media was concerned, it was observed durkig the course of the survey that some progressive farmers were subscribers of aquac-ulture journals like Aqua star, Fishing chimes, reports and guides, folders and leaflets from feed companies; and these farmers in turn diffuse the information to the rest of their fellow farmers.

These findings bear a striking similarity to the findings of Kumaran *et al.* (2) who reported that feed and input dealers, and fellow farmers were the main sources of information, and that the involvement of government departments like the state fisheries department, was meager.

Constraints faced by shrimp farmers of nagapattinam in shrimp culture

The constraints faced by shrimp farmers of Nagapattinam were studied analyzed and the results presented in Table 2.

It could be seen from Table 2 that among the constraints, disease incidence, poor quality of seeds, price fluctuations and lack of information on market prices, lack of co-operation among fellow farmers and lack of quality control agencies were the most important constraints faced by the majority of the respondents and ranked I to V according to their importance.

Disease incidence was the first and foremost constraint faced by the respondents (93.33%). This might be because the major disease in the study area was White Spot Syndrome Virus (WSSV), and the occurrence of this disease can cause heavy mortality of the crop. Though no complete control measures have been developed so far, for control of WSSV, the occurrence of the disease has been tacked to some extent by instituting preventive measures such as screening of shrimp seeds through technologies such as PCR (poly-merase chain reaction) tests.

These PCR tests are done by many private shrimp hatcheries and companies, as well as by governmental agencies like MPEDA, though they are lesser in number. However there is no seed certifying agency which can guarantee that the PCR tested seeds are free of the virus; as sometimes random samples may not be used. Hence the need for a seed certifying agency operated by the State Fisheries Department was felt among the shrimp farmers.

This finding is in line with the findings of Kumaran *et.al.*(3) who reported that disease incidence was the major constraint faced by shrimp farmers of East Godavari district in Andhra Pradesh.

Next to disease incidence, poor quality of seeds was a constraint, expressed by 90.00 percent of the respondents. Lack of an appropriate seed certifying agency might be the reason for poor quality seeds.

Price fluctuations and lack of information on market prices was a constraint reported by 83.33 per cent of the respondents. Since cent per cent of the cultured shrimps are meant for the export market in Nagapattinam, the price of the shrimp is determined in the international market; of which few of the shrimp farmers are aware of, often the price of shrimp is settled through direct dealings between the farmer and exporter. Price fluctuations, do not ensure a stable remunerative price for the farmer.

Lack of co-operation among fellow farmers was the next constraint expressed by 78.33 per cent of the respondents. This might be because though majority of the shrimp farmers were members of registered shrimp farmers association, there is a lack of active

involvement by the farmers, in adopting appropriate management practices such as Disease management and culture operations, together. Lack of credit and insurance facilities were a constraint expressed by 73.33 per cent of the respondents.

The farmers are of the opinion that the government should revive its policies for providing credit and insurance facilities which were previously present; during the initial phase of popularisation of the technologies. Lack of government support was a constraint faced by 71.66 percent of the respondents. The shrimp farmers are of the opinion that the field level workers; visit the shrimp farms occasionally, and are not technically proficient in delivering the technologies as they are not qualified personnel.

Since the shrimp farmers invest lakhs of Rupees in this venture, they want immediate, and timely technical assistance; and hence mostly turn to private aquac-ulture consultants who are mostly graduates in fisheries sciences, and also feed dealers who regularly visit their farms and render assistance, based on hands on experience.

Suggestions of Shrimp Farmers of Nagapattinam To Overcome the Constraints

The suggestions offered by the shrimp farmers of Nagapattinam to overcome the constraints were studied, analyzed and the findings presented in Table 3.

It could be observed from Table 3 that majority of the respondents (95.00 percent) have suggested the setting up of disease diagnostic centres in each district, for early detection and control of diseases such as white spot virus syndrome and other viral diseases affecting shrimp.

These centres may be on the lines of Aquaculture clinics which have come up in several districts of Andhra Pradesh as reported by Dixitiu (4) who reported that such clinics help their client farmers by regularly checking the condition of shrimps under culture, checking of water quality and suggesting timely remedial measures to farmers where necessary.

Provision for creation of seed certification agencies was suggested by (90.00 per cent) of the respondents; as a remedial measure for poor quality seeds used by farmers. Creation of market intelligence cell in State Fisheries Department as well as communication of day to day information of prices through mass media was a suggestion offered by 86.67 per cent of the respondents.

The fourth important suggestion offered, was the setting up of quality control agencies to regulate the quality of chemicals, by 83.33 per cent of the respondents. This must be because shrimp culture makes use of a large amount of chemicals such as Probiotics and Immunostimulants, which do not have any regulatory authorities set up by the government, to certify their quality. Hence there is a need to set up quality control agencies or National accreditation of certification Bodies and issue the recognized stamp mark of ISO 9002, similar to the ones issued for assuring the quality of Agrochemicals, in the agriculture sector. Next in order of importance, strengthening shrimp farmers associations and formation of aquaclubs was a suggestion given by

Table 1. Information source utilization by shrimp farmers of Nagapattinam (n=60)

S. No.	Information Source	Number	Percent	Rank
1.	Private Consultants	52	86.67	I
2.	Feed dealers	49	81.67	II
3.	Fellow farmers	47	78.33	III
4.	State Fisheries Department (Brackish water fish farmers development agency- BFDA)	22	36.67	IV
5.	Marine products export development authority - MPEDA	21	35.00	VI
6.	Research Institutions	19	31.67	
7.	Printed literature	18	30.00	VII

Table 2. Constraints faced by shrimp farmers of Nagapattinam, in shrimp culture (n=60)

S. No.	Information Source	Number	Percent	Rank
1.	Disease Incidence	56	93.33	I
2.	Poor quality of seeds	54	90.00	II
3.	Price fluctuations and lack of information on market prices	50	83.33	III
4.	Lack of co-operation among fellow farmers	47	78.33	IV
5.	Lack of quality control agencies	45	75.00	V
6.	Lack of credit and insurance facilities	44	73.33	VI
7.	Lack of government support	43	71.66	VII

* Multiple responses and hence percentage may exceed 102.

Table 3. Suggestions offered by the respondents to overcome the constraints in shrimp culture

S. No.	Information Source	Number	Percent	Rank
1.	Setting up of disease diagnostic centres in each district.	57	95.00	I
2.	Provision for creation of seed certification agencies	54	90.00	II
3.	Creation of market intelligence cell in state fisheries department as well as communication of day to day information of price, through mass media.	52	86.67	III
4.	Setting up of quality control agencies to regulate the quality of chemicals	50	83.33	IV
5.	Strengthening shrimp farmers associations; and formation of aqua clubs	48	80.00	V
6.	Government support in the form of credit and insurance facilities	45	75.00	VI
7.	Lower tariff rates for electricity	42	70.00	VII
8.	Changing the status of shrimp culture from that of industry to agriculture.	28	46.67	VIII

* Multiple responses and hence percentage may exceed 100.

80.00 per cent of the respondents. Joint disease management, water management war rants the co-operative efforts of all the neighboring farmers in order to maintain a healthy crop. This co-operative effort can be promoted only through shrimp farmer's association. Although at present there is a registered shrimp farmers association called "Nagapattinam Aqua Farmers Association" in the study area, the active involvement of the member farmers is lacking. Setting up of Aqua clubs on the lines of Andhra Pradesh state can be taken up for co-operative action in respect of water intake, and water release.

The sixth important suggestion was the support of the government in the form of credit and insurance facilities given by 75.00 per cent of the respondents. Such facilities were given initially by Nationalised banks like NABARD, and government insurance agencies, but later stopped due to poor repayment and false claims of crop loss. Lower tariff rates for electricity was a suggestion offered by 70.00 per cent of the respondents. This might be because a lot of expenditure was incurred by way of operation of pump sets, and for setting up of lighting facilities in the farm during night, to avoid theft and pilferage. Lastly it could

be observed from Table 3 that 46.67 per cent of the respondents wanted to change the status of shrimp culture from that of an Industry to that of agriculture. This could be because of the Supreme Court decision of 1996 conferring on shrimp culture, the status of an industry, thereby restricting aquaculture operations within the coastal regulation zone. The supporters of shrimp aquaculture would prefer to consider the status of agriculture for shrimp because agricultural activities are not prohibited within the CRZ and besides the shrimp farmers want to avail of benefits like tariff reduction in electricity or free electricity which is available to agricultural sector in states like Andhra Pradesh.

Conclusion

It could be inferred from the study that the 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 trust worthiness, they were the primary credible sources of information for Shrimp farmers. The fellow farmers were rated as the third important source of information, since they passed the information to their press by word of mouth. The government sources such as the State Department of fisheries came only next in order. 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 extension wing of the state fisheries department should be revamped and more number of technically qualified and trained personnel should be appointed at the grass root level to render timely and important information the Shrimp farmers. As far the constraints expressed by the Shrimp farmers were concerned the government should undertake the setting up of disease diagnostic centers in each district, followed by setting of seed certifying agencies and quality control agencies for regulating the quality of chemicals. The experiences of the government in the agriculture sector such as use of quality control accreditation methods such as Agmark, setting of market information cells, and provision of free electricity can be suitably examined and emulated for the benefit of the Shrimp industry also.

References

1. **Aquaculture Authority News.** 2002. **1** : 1-4.

2. **Kumaran M, K.Ponnusamy, M.Krishnan, Harbir Singh and P.S.Birthal.** 1999. Extent of Information source utilization among the shrimp afrmers of Tamilnadu. Paer presented in the Inter-institutional workshop on "Aquaculture Development in India". Prospects and Retrospects, NCAP.New Delhi, 6-7 th August 1999.

3. **Kumaran, M. V.S.Chandrasekaran and N.Kalaimani.** 2003. Aquaculture Extension: The Neglected aspect in Aquaculture Development. Fishing Chimes. **23** :29-33.

4. **Dixitlu, J.V.H.** 2001. An overview of the present state of Shrimp Aquaculture in India. Fishing Chimes. **20** : 11-16