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Information Seeking Behaviour of Extension Personnel in Aquaculture Sector

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Abstract

Fishery extension personnel ought to be effective information seekers to perform their role as 'facilitators' for accessing farm inputs, advisory services and markets to the farming community. Study conducted among the fishery extension personnel of Department of Fisheries in Tamil Nadu and Andhra Pradesh has indicated that hardly 50% of them were information seekers and their information seeking frequency was totally insufficient (<50%). Printed publications, research wings of the Departments of Fisheries (DoF), fisheries colleges of State Agricultural Universities and Marine Products Export Development Authority were the information sources respectively for 46, 40, 36 and 30 percent of the extension personnel. Their low information seeking behaviour was manifested in their low awareness level (<50%) on the Better Management Practices advocated. It is suggested to evolve a National Fisheries Extension Mission to restructure the DoFs and to integrate fisheries research with extension functions. Alternative, cost effective and rapid communication channels also need to be explored for the mutual exchange of information among the fishery researchers, extension personnel and farming community.

Key words: Aquaculture extension, information, communication, capacity building

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Introduction

Aquaculture is an important farm enterprise, contributing significantly to the socio-economic development of coastal communities. Fisheries extension personnel are the key facilitators of the farming community to access quality farm inputs, farm machinery, technical counselling, institutional credit, better price and to mobilise them for a collective compliance of farm practices to achieve sustainability. Fisheries and aquaculture being the State subject, the maritime states have the major responsibility of providing this key support. Information is a powerful weapon and a unique pre-requisite for making decisions. As extension personnel mostly deal with information dissemination, they are expected to be rigorous information seekers to keep themselves updated in every aspect of on-farm and off-farm activities. In the course of information seeking, individuals may interact with people, with manually operated and computer-oriented information systems (Wilson, 2000; Meho & Hass, 2001).

Extension workers cannot be efficient in their responsibilities to their clientele if they are deficient in information dissemination resulting from not being adequately informed on some subjects (YomiAlfred & Odefadehan, 2007). Barriers that prevent individuals from seeking and getting information are also of great importance in understanding the information seeking behaviour of individuals and organizations. Utilization of information sources was significantly and positively correlated with the knowledge levels of fishers (Barman et al., 2004). Singh et al. (2003) found that the most important source of information on farm technology was state department of agriculture and the most important communication mode was staff specialists while the least used mode was personal correspondence with researchers. It was reported that there was a significant relationship between age, level of education, experience and the worker's level of job-related information with information seeking behaviour (Mohammadi, 2002). Understanding the information sources of the fishery extension officers would help in strengthening those channels, addressing the constraints if any and in

devising alternative information dissemination mechanisms for an effective and efficient delivery of information which ultimately enhance their capacity to serve the farmers appropriately. In this context, a study was taken up to assess the information seeking behaviour of the extension personnel and the influence of other socio-personal factors on their information seeking behaviour and the results are presented in this communication.

Materials and Methods

Investigation was conducted in two prominent coastal states *viz*., Tamil Nadu and Andhra Pradesh where aquaculture is being practiced extensively and intensively. Andhra Pradesh had the maximum farming area and production while Tamil Nadu ranked first in per hectare productivity (MPEDA, 2008). A purposive sample of 30 field level extension personnel from the Department of Fisheries (DOF) of the above two states proportionate to their total strength presently working in coastal districts was drawn for the present investigation. A structured and pre-tested interview schedule was used for data collection. Twelve personal attributes *viz*., age, education, aquaculture experience, training unergone, frequency of contact, organizational climate, manpower, extension approach and methodology, resource appraisal, willingness for partnership, awareness on Better Management Practices (BMP) and linkage with fishery R&D institutions were also studied to have a broader understanding of the extension organization *per se*. For the present study, information seeking behaviour was operationalised as the extent to which the information sources were consulted, frequency of consultation and respondents' level of satisfaction on the content with the scoring pattern followed *viz.*, information source (1 score for each information source used), frequency of use (frequent -2, occasional -1 and never - 0) and level of satisfaction (satisfied – 1 and not satisfied – 0). Scores of the above three aspects were added to arrive at an individual's information seeking behaviour score. Descriptive statistics and regression analyses were performed using SPSS 10.0 package to interpret the findings appropriately.

Results and Discussion

Personal attributes of the respondents were studied to have a better understanding of respondents' profile and their organization. The data presented in Table 1 indicated that 56% of the respondents was above 45 years old. This indicated that fishery extension officers were relatively old and that there was a lack of fresh recruitments to the DoF in the recent past. More than half of the respondents (52%)

Table 1. Attributes of aqua extension personnel (n=30)

Sl. No.	Attribute	*Responses in %
1	Age	
	< 45 years	44
	> 45 years	56
2	Education	
	Graduation	52
	Post graduation	48
3	Experience in coastal aquaculture	
	< 3 years	84
	> 3 years	16
4	Extension approach	
	Group contact	72
	Personal contact	28
	Extension methodology used	
	Farm visit	60
	Farmers meetings	57
	On/off campus trainings	40
5	Frequency of contact with farmers	
	Once in a month	40
	Occasional	60
6	Willingness to work with private extension	
	Yes	84
	No	16
7	Background	
	Rural	56
	Urban	44
8	Organizational climate	
	Un-conducive	28
	Conducive	72
9	Manpower availability	
	Extension officers	NS
	Extension field workers	NS
	Administrative staff	NS
10	Training	
	Attended	84
	Needed	60
11	Linkage with Fisheries R&D institutions	
	Marine Products Export Development Authority	67
	Fisheries College & Research Institute	47
	ICAR Research Institutes	40

NS: Not sufficient, * Multiple Responses

were graduates and the remaining (48%) were post graduates. Basically, majority of the extension personnel were not professional fisheries graduates and hence, they lacked orientation towards extension concepts, approaches and methodologies. Though the respondents had more than 15-28 years of experience in the department, 84% of them had less than three years of continued field experience in coastal aquaculture. However, majority of them had undergone training programmes and among them, about 30% had training either on shrimp or scampi culture. Majority of them (72%) followed group contact extension method to meet aqua farmers. Farm visit (60%), farmers meetings (57%), on/off campus trainings (40%), demonstrations and exhibitions (22%) were the different extension methodologies adopted by fishery extension personnel.

Eighty four percent of the respondents expressed willingness to work with private extension personnel in the field (aqua professionals) since the latter had regular contact with the farmers and professionally proved to be competent. Seventy percent of them reported field problems to their head offices and in turn the same were communicated to the research wing of the department for solutions. They were of the perception that the farmers had adopted their technical advice. Departmental training centre was their prime information source for 57% of the respondents. Majority of the respondents (60%) expressed their willingness to undergo training in extension methodologies, communication skills, internet and human relations management. Many respondents were of the view that the manpower availability in the department was insufficient and hence, every extension officer had to look after more than two to three mandals or taluks. Further, there was shortage of field level extension workers and administrative staff in the department. The respondents expressed that additional manpower in the above categories was absolutely essential to concentrate more on extension education work. Majority of the respondents (67%) had linkage with Marine Products Export Development Authority (MPEDA) through participation in their meetings at frequent intervals. About half of the respondents had rapport with fisheries colleges (47%) and another 40% with research institutions. Occasionally technical experts from the above establishments were invited for training programmes. The respondents were of the view that the organizational climate in the departments was not so conducive for extension service and there was no exclusive budget for extension work.

Hardly fifty percent of the respondents approached information sources to update themselves regularly (Fig.1). It was found in discussions with the respondents that they were not conversant with the latest scientific and other developments in aquaculture. Technical manuals and reports of fishery research and development institutions were the main information source for 46% of fishery extension personnel. Fishery research institutions publish technical reports, posters, bulletins and manuals as part of their human resource development efforts. These were supplied to the DoF for wider distribution to the end users. Around 40% of the extension personnel in both the states informed that their respective departmental training institutions were their information source. The DoFs in both the states had Staff Training Institutes (STI) which offered induction and in-service trainings to their field personnel. It was expressed that the opportunity for training was given once in few years and the content of the training was also mostly routine in nature. Singh et al. (2003) reported similar findings while reviewing the information seeking behaviour of agriculture extension officers. Information sources namely training, research stations, books, technical bulletins, seminars and supervisors were found to be effective in providing information to the extension workers (YomiAlfred & Odefadehan, 2007).

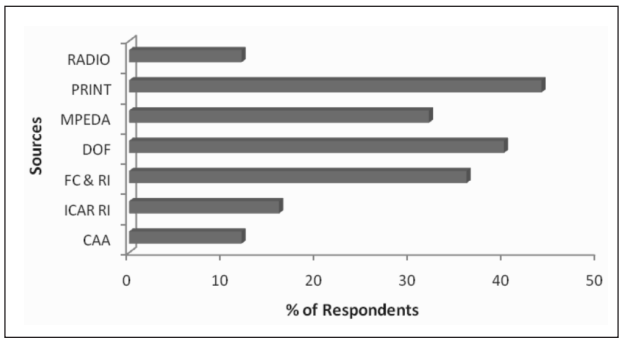

Fig. 1. Information seeking behaviour of fishery externsion personnel

PRINT: Printed publications
MPEDA: Marine Products Export Development Authority
DoF: Department of Fisheries
RADIO: Radio and TV
ICAR RI: ICAR Research Institute
CAA: Coastal Aquaculture Authority
FC & RI: Fisheries College

About one-third of the respondents expressed that fisheries college (36%) and MPEDA (30%) were the other important sources. This may be because of the respondents' personal rapport and interaction with these institutions. Further, being the promoter of aquaculture, MPEDA offered several subsidy oriented schemes and the DoF was an official member in identifying beneficiaries in such schemes. The extension officers on behalf of their superiors attended such meetings and interacted with MPEDA officials, exchanged field level information and publications between them. Further, some credit institutions offered credit assistance to aqua farmers on the basis of the projects scrutinized by MPEDA and DoF and through these programmes they had close interaction. It was also reported that the information exchanged in such meetings was extremely useful and linkages with the development institutions needed to be strengthened. Research institutes of ICAR, Coastal Aquaculture Authority (CAA) and mass media were their other information sources. However, the frequency of consultations with these sources was at occasional intervals only. Some respondents had attended training programmes conducted by ICAR research institutions and felt satisfied with the content. Regulatory guidelines implemented by CAA through DoF was also a natural information source to the respondents.

Research and developmental institutions advocated Better Management Practices (BMPs) to promote sustainable culture practices as aquaculture is beset with disease threats. The developmental institutions through DoFs had advised the aqua farmers to adopt BMPs to prevent disease outbreaks and their spreading. The fishery extension personnel who were the facilitators to this process at the field level were expected to be aware of the BMPs. To give a cogent argument to the above discussed information behaviour of fishery extension personnel, their awareness on these BMPs was also investigated and presented in Fig. 2. It was found that their BMP awareness levels were up to 50% and this showed that the information seeking behaviour of the fishery extension personnel was low. This may be because of the fact that about 75% of their working time was spent on welfare measures, developmental and regulatory works. Hence, extension education function was totally neglected and they hardly find time to update themselves on technical subject matter. The regression analysis performed with relevant personal attributes *viz*., age, education, experience, training obtained, frequency of contacting information source and linkages to assess the level of influence of personal variables on the information seeking behaviour of the respondents indicated that age and extent of linkage with fishery research and development institutions have significantly influenced their information seeking behaviour (Table 2). Young people due to their willingness to learn and access to online sources would certainly seek new information to update their knowledge. Similarly linkage with development departments as discussed earlier would provide opportunity for technical updation. Mohammadi (2002) reported similar findings while studying the information sources of agricultural extension personnel in Zanjan province of Iran. Hence, it is essential that frequent interactions should be encouraged between the fisheries researchers and extension personnel that would eventually benefit the end users.

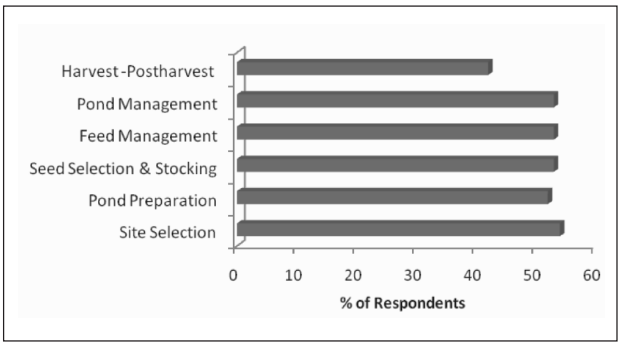

Fig. 2. Awareness level of fishery extension personnel on better management practices (BMP) of aquaculture

The findings have shown that both technology development and transfer were in isolation and need integration. As of now, there was no linkage

Table 2. Influence of personal attributes on information seeking behavior

Attributes	Regression Co-efficient (B)
Age	0.581**
Education	0.144
Experience	-0.388
Training attended	-1.778
Frequency of information contact	-1.906
Linkage	0.279*
R^2 = 0.561	

* Significant at 5% level; ** Significant at 1% level

mechanism to integrate them. Due to this chasm, the farming community was forced to approach aqua input dealers and they become the preferred information source to the farming community. The fishery extension personnel due to their priority towards welfare and regulatory programmes, neglected their expected job of education and training of farming community. Their inadequate updation on technical subject shadowed their interaction with farmers. Moreover, intra departmental transfer from one sector to another also contributed to their inability to keep themselves updated. A mechanism that provides sufficient opportunity to the grass root extension workers to interact with the research and development institutions on a regular mode is essential to have meaningful information exchange. This would facilitate a strong linkage between research, extension and farmers which is vital for augmenting fisheries production through scientific interventions. Capacity building for the extension personnel to update their technical knowledge ought to be regular and continuous. Aqua production guides with comprehensive information on every aspect with sufficient illustrations should be prepared every year and supplied to fishery extension workers to update themselves.

Information seeking and sharing between research and extension are vital for the planned and regulated aquaculture development in the country. The state departments of fisheries are to be reoriented structurally and functionally with required manpower, infrastructure and budgetary resources. Fisheries research and extension systems need integration in their functioning for the regular flow of information in both the directions.

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References

Barman, R.C., Dana, S.S. and Panigrahi, A.K. (2004) Information sources utilization pattern of beel - users for sustainable development of beel fisheries. J. Environ. Sociobiol. 1(1-2): 91-94

Meho, L.I. and Hass, S. W. (2001) Information seeking behaviour and use of social science faculty studying stateless nations: A case study. Libr. Inform. Sci. Res. 23: 5-25

Mohammadi, D. (2002) An Investigation of the Factors Influencing Information-Seeking Behaviour of Extension Workers in Zanjan Province of Iran. M.Sc. Thesis, Tehran University, Tehran, Iran

MPEDA (2008) Annual Report, 2008. www.mpeda.com (Accessed 12 December 2009)

Singh, B., Narwal, R. S. and Malik, S. J. (2003) Communication sources used by extension personnel and farmers. Indian J. Exte. Edu. 39(1&2): 26-30

Wilson, T.D. (2000) Human information behavior. Inform. Sci. 3(2): 49-55

YomiAlfred, S.D. and Odefadehan, O.O. (2007) Analysis of information needs of agricultural extension workers in Southwest of Nigeria. S. Afr. J. Agric. Exte. 36 (1): 62-77