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ORIGINAL RESEARCH ARTICLE



## Job satisfaction of local extension agents for fisheries: Insights from farm level survey in Bangladesh

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### ABSTRACT

The present study was conducted to assess job satisfaction of local extension agents for fisheries (from here and later in LEAFs) in Melandaha and Islampur sub-districts under Jamalpur district of Bangladesh. Data were collected by the researchers from LEAFs during September to November 2021 through face-to-face interviews by using a structured interview schedule. Descriptive statistics, rank order, and coefficient of correlation were used to analyze the data. Almost all of LEAFs (97.8 percent) had low to medium job satisfaction in extension service delivery. Among fifteen job satisfaction indicators, 'supervisor's guidance' was identified as the most important one. The least ranked indicator was 'job security'. Correlation analysis showed that age, level of education, job experience, training exposure, and organizational participation of LEAFs are significantly associated with their job satisfaction. All of the LEAFs (100 percent) faced medium to high problems in the research area. The most severe of the fourteen problems was 'farmers' reluctance to accept new technologies,' followed by 'shortage of manpower'. The least important problem of LEAFs was 'farmers are non-cooperative'. Therefore, it is highly recommended that if an advance training program for LEAFs could be organized to solve their problems, it would be great to get quality extension services and build a well-organized fisheries sector in Bangladesh which will finally help to enhance nutritional security and poverty reduction in the country.

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### INTRODUCTION

Aquaculture is a global practice, regarded as a significant financial and food producing sector in South-East Asia (Hosain *et al.*, 2021). Globally, Bangladesh ranks fifth in aquaculture production (4.503 million tonnes during the fiscal year 2019–2020) after China, Indonesia, India, Vietnam, and Philippines (BBS, 2019; FAO, 2019; Ray, 2021). Bangladesh has developed into a nation that can produce fish on its own and export fish, prawns, and other fisheries products, which generates huge amount of foreign cash (1.39% of export revenues) (Shamsuzzaman *et al.*, 2020). Fish is the second most valued product in terms of national income and food security in Bangladesh (Mithun *et al.*,

2020; Sunny *et al.*, 2020; Mozumder *et al.*, 2022). Fisheries extension (also called as advisory services) is important in improving aquaculture production, enhancing food security, improving rural communities, and promoting aquaculture as a pro-poor economic growth driver (Ahmed *et al.*, 2018). In Bangladesh, the Department of Fisheries (DoF) is in charge of offering services related to fisheries extension. Generally, there are administrative set-ups at division, district and Upazila (sub-district) levels headed by Deputy Director, District Fisheries Officer and Senior/Upazila Fisheries Officer, respectively (DoF, 2020). Upazila fisheries office of DoF is supported by one fisheries extension officer (not in every upazila), one assistant fisheries officer and one field assistant. But at union/field level in

Bangladesh, there was no manpower of DoF before 2006. Realizing the necessity of manpower at field level, National Agricultural Technology Programme (NATP phase-1) project first introduced field level extension staff (LEAFs) in the DoF in 2006 (Ahmed et al., 2018).

A dynamic fish farmer/local leader has been chosen among the local fish farmers who involved with fish and fish seed industry are known as LEAFs (Hossen et al., 2020). LEAFs provide extension services and advices to the fish farmers in the areas of aquaculture, fishing technology, processing, marketing, etc. who ask for suggestion or consultation (Putra and Fitri, 2020). LEAFs play a vital role in technology transfer to the fish farmers for the success of DoF. In case of critical issues, they cohere with Upazila Fisheries Officer and give suggestion to the fish farmers (Ahmed et al., 2018). It is challenging to carry out fieldwork in Bangladesh as a local extension agent for fisheries. They encounter many obstacles in the course of doing their jobs. Job performance is very much related with job satisfaction (Olatunji et al., 2015). Job satisfaction can be defined as an individual attitude work roles and the relationship to worker motivation (Scott et al., 2005). It is the extent to which one feels good about the job. The job satisfaction is not only related to salary but also concern with working environment, communication, relationship with workers, personality and training opportunity, job security, job prestige, and so on (Oladele and Mabe, 2010). Organizational achievement largely depends upon how much the employees are satisfied with their job condition. In these conditions, it is reasonable to wonder whether LEAFs are happy with their jobs or not. As a result, the researchers conducted this study with the following objectives in mind: to assess job satisfaction of LEAFs; to explore the relationship between socioeconomic characteristics of LEAFs and their job satisfaction; and to determine problems of LEAFs in extension service delivery.

## MATERIALS AND METHODS

### Locale of the study

The present study was conducted in two sub-districts (also called upazila), namely Melandaha and Islampur under Jamalpur district of Bangladesh (Figure 1). Melandaha subdistrict occupies an area of 239.65 km<sup>2</sup> and located between 24°51' and 25°50' north latitudes and between 89°42' and 89°53' east longitudes. On the other hand, Islampur subdistrict occupies an area of 343.02 km<sup>2</sup> and located between 24°57' and 25°10' north latitudes and between 89°38' and 89°56' east longitudes. Jamalpur district in Bangladesh is a suitable location for freshwater aquaculture geographically. Additionally, a significant number of farmers are engaged in the production of fish and have benefited from local extension services provided by LEAFs under Department of Fisheries (DoF).

### Population and sampling

The LEAFs of Melandaha and Islampur sub-districts were the population of the research. An updated list of LEAFs of the two selected sub-districts was collected with the help of upazila

fisheries officer. The total number of LEAFs was 46 and all of them constituted the population of the study.

### Data collection, processing and analysis

A structured interview schedule was prepared considering the objectives of the study to collect data. The interview schedule was pre-tested with 10 LEAFs of the study area. Based on the pre-test experience, necessary corrections and modifications were made before finalizing the interview schedule for data collection. Data were collected by the researchers from LEAFs during September to November 2021 through face-to-face interviews. The first data set included eight socioeconomic characteristics of LEAFs i.e., age, level of education, family size, job experience, annual income, training exposure, use of information sources and organizational participation as explanatory variables. Mean, standard deviation (SD), and percentages were used to examine these data. Secondly, a 4-point rating scale was used to measure the focus variable of this study i.e., job satisfaction of LEAFs in extension service delivery. A total of 15 indicators were selected through literature review and expert consultations, and incorporated into the scale in order to explore the respondent's real job satisfaction. The LEAFs indicated their responses whether they very satisfied (3), satisfied (2), partially satisfied (1) and not at all (0). A similar scale was used by Oladele and Mabe (2010) to identify job satisfaction of extension officers in North West Province, South Africa. The job satisfaction score assessed by a LEAF was determined by summing up the score ranged from 0 to 45 where 0 indicates no job satisfaction and 45 indicates highest job satisfaction. A job satisfaction score (JSS) was calculated to measure the extent of job satisfaction of LEAFs in the study area (Equation 1).

$$JSS = S_v \times 3 + S \times 2 + S_p \times 1 + S_n \times 0 \quad (1)$$

Where, JSS = Job Satisfaction Score, S<sub>v</sub> = Number of respondents indicating very satisfied, S = Number of respondents indicating satisfied, S<sub>p</sub> = Number of respondents indicating partially satisfied, and S<sub>n</sub> = Number of respondents indicating not satisfied at all. Thus, the JSS of individual indicator could range from 0 to 138, where, 0 indicated no satisfaction and 138 indicated high job satisfaction of LEAFs (Table 2).

Thirdly, Pearson's Product Moment Correlation coefficient (r) was used for testing the relationship between the socioeconomic characteristics and job satisfaction of LEAFs in extension service delivery (Equation 2).

$$r_{xy} = \frac{\sum(x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum(x_i - \bar{x})^2 \sum(y_i - \bar{y})^2}} \quad (2)$$

Where,

$r_{xy}$  = Pearson's product-moment correlation coefficient

$\bar{x}$  and  $\bar{y}$  =

Means of the variables x and y, respectively.

Finally, the major 14 problems of LEAFs were measured by using a 4-point rating scale (Hoque et al., 2021). The respondents were asked to rate each problem as high, medium, low and not at all, with corresponding score of 3, 2, 1 and 0, respectively. Thus,

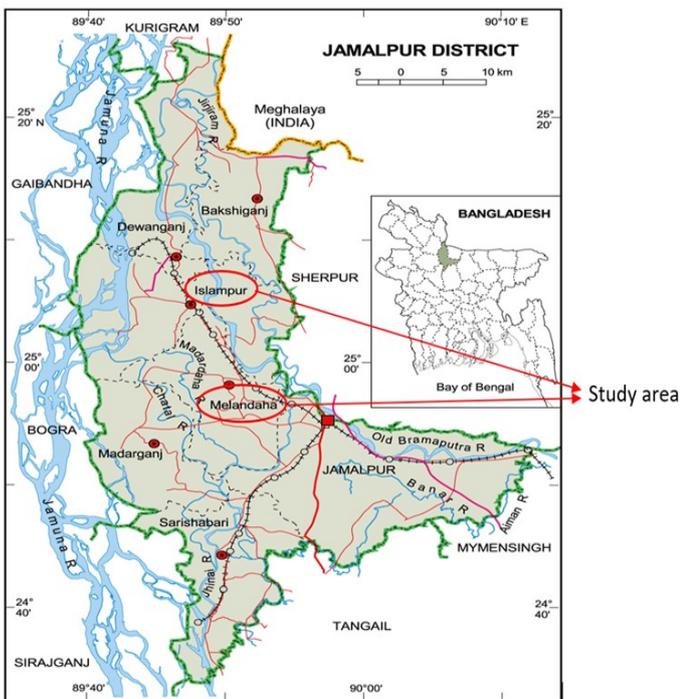


Figure 1. Map showing the study area.

the problem scores ranged from 0 to 42, where 0 indicates no problem and 42 indicates severe problem. Moreover, a problem facing score (PFS) was employed to identify the critical problems of LEAFs in extension service delivery (Equation 3). Other

researchers (Uddin et al., 2021; Mithun et al., 2018) also used similar formula to identify the critical problems in their respective studies.

$$PFS = (Ph \times 3) + (Pm \times 2) + (Pl \times 1) + (Pn \times 0) \quad (3)$$

Where, PFS = Problem Facing Score, Ph = Number of responses with high problems, Pm = Number of responses with medium problems, Pl = Number of responses with low problems and Pn = Number of responses with no problem. Thus, the PFS of individual problem could range from 0 to 138, where 0 indicating no problem and 138 indicating high problem of LEAFs in extension service delivery (Table 4).

The Statistical Package for Social Sciences (SPSS) version 20 and Microsoft Excel version 13 was used for data management. Descriptive statistics, for instances, percentage, mean, standard deviation and rank order were utilized for classification and describing the variables with the help of tables and figures.

## RESULTS AND DISCUSSION

### Socioeconomic features of LEAFs

In Table 1, an overview of the socioeconomic features of LEAFs is shown in this section. The majority of LEAFs (60.9 percent) were of middle aged compared to 30.4 percent being young in the study area. The distribution of the LEAFs according to their educations indicated that 39.10 percent of them were from

Table 1. Socioeconomic features of LEAFs (n=46).

Socioeconomic features	Percent	Mean	SD*
Age (years)			
Young (Up to 35)	30.4		
Middle (36-50)	60.9	39.08	8.59
old (above 50)	8.7		
Level of education (years)			
Secondary level (6-10)	39.10		
Higher secondary (11-12)	15.20	12.91	2.98
Above higher secondary (Above 12)	45.70		
Family size (number)			
Small family (Up to 4)	37.0		
Medium family (5-6)	50.0	5.13	1.18
Large family (above 6)	13		
Job experience (years)			
Short (up to 5)	52.2		
Medium (6-10)	45.7	6.50	1.99
long (above 10)	2.2		
Annual income ('000' BDT)			
Low (up to 100)	30.4		
Middle (100-200)	58.7	136.91	54.14
High (Above200)	10.9		
Training Exposure (days)			
Short (up to 10)	0		
Medium (10-20)	58.7	19.02	4.05
Long (above20)	41.3		
Use of information source (score)			
Low (1-12)	0		
Medium (13-24)	34.8	25.36	2.51
High (above 24)	65.2		
Organizational participation (score)			
Low (up to 5)	100		
Medium (5-10)	0	2.50	1.06
High (above 10)	0		

SD\* = Standard Deviation, BDT = Bangladeshi Taka

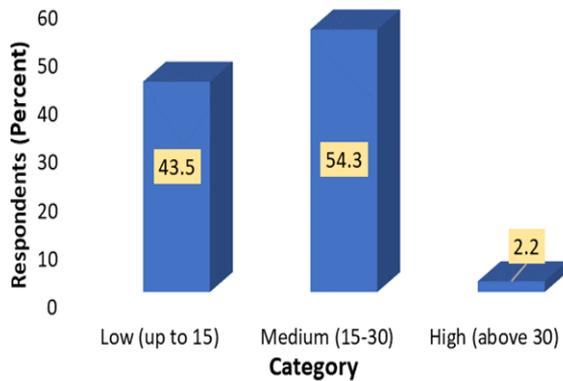


Figure 2. Job satisfaction of LEAFs.

secondary level while 45.7 percent had above secondary level of education. Half of LEAFs (50 percent) belonged to medium sized family compared to 37 percent small family. More than half of LEAFs (52.2 percent) was found to have low job experience and 45.7 percent LEAFs had medium experience, and only 2.2 percent had high job experience. Data presented in Table 1 shown that the highest proportion of the respondents (58.7 percent) had medium income while 30.4 percent had low income. The

majority of LEAFs (58.7 percent) had medium training on fisheries extension while 41.3 percent having long training and none of LEAFs received short training. Maximum number of respondents (65.2 percent) having high contact with the sources while 34.8 percent having medium contact and none of them maintained low contact with the sources. All LEAFs (100 percent) of the research area had low participation in different organizational activities rather than fisheries extension service delivery.

#### Job satisfaction of LEAFs in extension service delivery

The extent of job satisfaction for LEAFs has been presented in the Figure 2. The highest proportion of the respondents (54.3 percent) had medium job satisfaction. However, almost half of respondents (43.5 percent) had low and only 2.2 percent had high level of job satisfaction. Job experience, training facilities and active organizational participation makes a LEAF more competent and efficient in doing their job. As a result, majority of the LEAFs (97.8 percent) had low to medium level of satisfaction in extension service delivery in the study area. Our findings are supported by the findings of Mithun *et al.* (2020) who showed that most of the sub assistant agriculture officers (71.5 percent) in Mymensingh district, Bangladesh had medium level of job satisfaction in agricultural extension service delivery.

Table 2. Rank order of job satisfaction of LEAFs (n=46).

S.N.	Indicators	Degree of satisfaction (n=46)				JSS*	Rank
		VS	S	PS	NS		
1	Supervisor's guidance	37	9	0	0	129	1
2	Cooperation of colleagues	28	18	0	0	120	2
3	Communication with farmers	27	19	0	0	119	3
4	Prestige of job	22	24	0	0	114	4
5	Working environment	21	23	2	0	111	5
6	Work life balance	18	28	0	0	110	6
7	Provision of promotion	20	24	2	0	110	6
8	Professional development	20	24	2	0	110	6
9	Work recognition	18	26	3	0	109	7
10	Work responsibilities	17	28	1	0	108	8
11	Technical support (e. g. mobile)	18	25	3	0	107	9
12	Opportunity of promotion	17	26	3	0	106	10
13	Provision of remuneration	15	28	3	0	104	11
14	Transport facilities	14	26	6	0	100	12
15	Job security	10	32	4	0	98	13

VS= Very satisfied (3), S= Satisfied (2), PS= Partially satisfied (1), NS= Not satisfied (0), \*JSS = Job Satisfaction Score.

Table 3. Result of correlation analysis between explanatory variables and focus variable (n=46).

Focus variable	Explanatory variables	Correlation coefficient (r) with 44 df
Job satisfaction of local extension agent for fisheries	Age	.604**
	Education	-.379**
	Family size	-.235
	Job experience	.465**
	Annual income	.087
	Training exposure	.578**
	Use of information sources	-.206
	Organizational participation	.339*

\*\* Correlation is significant at the 0.01 level (2-tailed); \* Correlation is significant at the 0.05 level (2-tailed).

To have an understanding about the extent of job satisfaction of LEAFs in extension service delivery, each indicator measured by job satisfaction score (Table 2). 'Supervisor's guidance' ranked first in satisfaction of LEAFs having score 129. It indicated that LEAFs feel that their supervisor's guideline is wonderful and they are satisfied by supervisor's appreciation and guideline. 'Co-operation of colleagues' has ranked second having score 120. It showed that most of the LEAFs understand each other and sincerely help each other. Co-operation of colleagues is important to faster a work environment that supports collaboration amongst colleagues and the higher the quality of one's co-operation will increase one's job satisfaction. Third one was 'Communication with farmers' (JSS = 119). Communication with farmers can affect job involvement. Now-a-days, by using e-Agriculture as well as ICT, particularly the internet, mobile phones, e-mails and SMS, farmers and LEAFs can access more easily to need based fisheries information and also can expand this information for better productivity. Fourth was 'Prestige of job' (JSS = 114). Occupational prestige contributes more to job satisfaction than work autonomy, authority, or income. LEAFs got more prestige for his/her job in his locality. Fifth was 'working environment' (JSS = 111). An attractive and supportive work environment is crucial for job satisfaction. Most of the LEAFs were satisfied with their working environment. 'Professional development' was the sixth indicator (JSS = 110) which indicates most of the LEAFs were satisfied with their professional development. Their supervisors were very helpful to improve their job condition, and 'Work recognition' was ranked Seventh. Job security obtained lowest position (JSS = 98). DoF or NATP does not provide LEAFs security of their job. So, LEAFs indirectly expressed job dissatisfaction in respect of 'Job security'.

### Relationship between socioeconomic characteristics of LEAFs and their job satisfaction

In this section, the relationships between the explanatory variables and focus variable have been explored (Table 3). Pearson's product moment correlation of coefficient ( $r$ ) was used to test the relationship between the explanatory variables and focus variable. The correlation coefficient ( $r = 0.604^{**}$ ) between age of LEAFs and their job satisfaction in extension service delivery was significant and showed a positive trend. This implies that the older the LEAFs, the more satisfied of their job in extension service delivery. The correlation coefficient ( $r = -0.379^{**}$ ) between level of education and job satisfaction showed a negative and significant relationship. Most of the LEAFs with higher education tended to be less satisfied with their job than other LEAFs having same job with a lower level of education. Similar results found by Ogunremi (2010). The job experience of LEAFs had positive and significant relationship ( $r = 0.465^{**}$ ) with their job satisfaction. This implied that the LEAFs who had long job experience possessed high job satisfaction and those who had short job experience possessed low job satisfaction in extension service delivery. Banmeke and Ajayi (2005) found similar studies. The correlation coefficient ( $r = 0.578^{**}$ ) between training

received on fisheries of the respondents and their job satisfaction in extension service delivery showed a positive and significant relationship. This revealed that LEAFs who received long duration training, possessed high job satisfaction and those who had short duration training, possessed low job satisfaction in extension service delivery. Mithun *et al.* (2018) reported very close findings which support our findings. The organizational participation of LEAFs was positively and significantly ( $r = 0.339^{*}$ ) related with their job satisfaction in extension service delivery, which indicated that with the increase of organizational participation, the job satisfaction of LEAFs also increases.

### Problems faced by LEAFs in extension service delivery

The extent of problems faced by the respondents in extension service delivery have been shown in Figure 3. The data revealed that the highest number of the respondents (82.6 percent) have faced medium problem in extension service delivery where 17.4 percent of the respondents faced high problems. None of LEAFs faced low problem in extension service delivery in the study area. Several factors might be responsible for those problems. Speciously, farmers are resistant to accept new technologies, shortage of manpower, difficulty of transportation in remote areas etc. could be some of the factors responsible for moderate problems in extension service delivery (Table 4). Our results are very much close to the results of Das *et al.* (2020) and Mithun *et al.* (2020) who reported that fish farmers experienced moderate problems in aquaculture production in Bangladesh. The LEAFs gave their responses as high, medium, low, and not at all against each problem included in problem confrontation scale. Problem facing score (PFS) for each of the problem was computed to ascertain the extent of seriousness of problems. Problems were ranked according their PFS (Table 4).

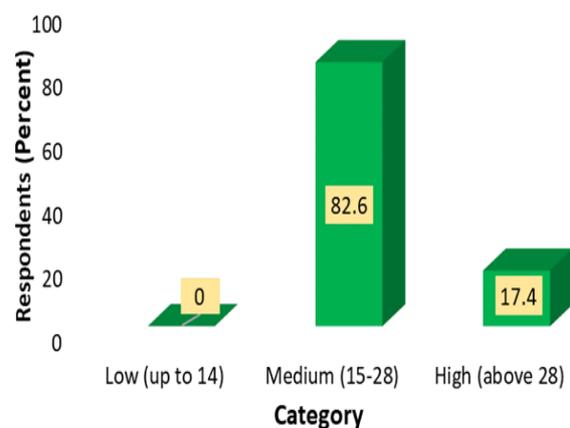


Figure 3. Problems faced by LEAFs in extension service delivery.

**Table 4.** Rank order of the problems faced by LEAFs in extension service delivery (n=46).

S.N.	Problem statements	Extent of problems				PFS*	Rank
		H	M	L	Naa		
1	Farmers are resistant to accept new technologies	30	16	0	0	122	1
2	Shortage of manpower	19	27	0	0	111	2
3	Difficulty of transportation in remote areas	16	29	1	0	107	3
4	Lack of training facilities	16	25	5	0	103	4
5	Poor operational knowledge of ICTs	6	34	6	0	92	5
6	Insufficient travel allowance	10	26	9	1	91	6
7	Lack of government supports	6	32	8	0	90	7
8	Limited financial budget to conduct extension program	10	22	14	0	88	8
9	Tendency to avoid farmers meeting	10	22	12	2	86	9
10	Electricity problems in remote areas	1	32	13	0	80	10
11	Low communication skills	2	21	23	0	71	11
12	Lack of practical experience	0	20	24	2	64	12
13	Overloads of work	2	15	26	3	62	13
14	Farmers are non-cooperative	1	0	24	21	27	14

H= High (3), M= Medium (2), L= Low (1), NAA= Not at all (0), \*PFS= Problems Facing Score

It was evident from Table 4 that the majority of LEAFs assumed 'farmers are resistant to accept new technologies' was a great problem (PFS = 122), consequently it ranked first. Most of the fish farmers are reluctant to new technology because they accustomed to the farming situation that they get input from their area for centuries. So, they would not accept to new ideas or innovation until they see significant advantage of the new ideas or innovations. Level of knowledge, literacy level, patience and willingness are some major factors behind this phenomenon. 'Shortage of manpower' was another great problem (PFS = 111) of LEAFs and it was ranked 2<sup>nd</sup> position. They realized that there was a shortage of staff according to the workloads, that's why, it leads to mistake and other inefficiencies and negative effects on individual performance. They felt it's better to have more staff in the field level. Research by Uddin *et al.* (2021) identified 'Unavailability of skilled labour' as being the third constraint for tilapia fish culture in Bangladesh. 'Difficulty of transportation in remote areas' was another problem (PFS = 107) and it was ranked 3<sup>rd</sup> position. Most of the places of study areas were located in the bank of the river. The LEAFs faced transportation difficulties because of damaged roads and unavailability of vehicles in study areas. Mithun *et al.* (2020) found poor transportation facilities as fifth ranked constraint in their research as faced by the farmers in participatory pond fish farming in Bangladesh (Shonia and Mithun, 2021). The 4<sup>th</sup> problem (PFS = 103) was 'lack of training facilities' which indicates that lack of advance training facilities does not increase the knowledge and skills of LEAFs. So, they do not become expert in delivering extension service. Most of the LEAFs did not have any training on ICT, for this reason, they have very low operational knowledge of computer. It hinders the process of delivering quality extension service. As a result, 'poor operational knowledge on ICTs' was another problem (PFS = 92) of LEAFs and it was ranked 5<sup>th</sup> position. There were several problems confronted by LEAFs while delivering extension service to the farmers such as, insufficient travel allowance, lack of government supports, limited financial budget to conduct extension program, tendency to avoid farmers meeting, electricity problems in remote areas, low communication

skills, lack of practical experience etc. They always struggle against these unwanted events. These problems hinder the extension service delivery system of a LEAF.

### Conclusion

Effective fisheries extension services are crucial to enhance the rate of fish production in Bangladesh. The present study reveals that LEAFs are enjoying their job i.e., fisheries extension service delivery with medium level of job satisfaction. The degree of job satisfaction is determined by the socio-economic features of LEAFs. Age, level of education, job experience, and training exposure of LEAFs are the likely to be domineering determinants which results in medium level of job satisfaction in the study area. This indicates a chance to work on those features to increase level of job satisfaction of LEAFs that will lead to high aquaculture production in the country. It is also evident that LEAFs in the study area explore a number of problems, of which, 'farmers are resistant to accept new technologies', 'shortage of manpower', 'difficulty of transportation in remote areas', 'lack of training facilities' were significant. So, it is immensely suggested that the concerned authority like DoF and other organizations (GOs and NGOs) should provide better interventions, like training and extension services, to LEAFs that would enhance the quality of their extension service delivery in Bangladesh.

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### Conflict of interest

The authors have no conflict of interest regarding the present study.

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