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PROBLEMS FACED BY THE SUB-ASSISTANT AGRICULTURE OFFICERS (SAAOs) WORKING IN DEPARTMENT OF AGRICULTURAL EXTENSION

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A B S T R A C T

The overall agricultural development of Bangladesh is rapidly progressing. The advancement in agricultural attainments is not a problem free venture. Various new problems are being faced by the SAAOs (Sub-Assistant Agriculture Officers) at present. Thus the purpose of this study was to determine the extent of the problems faced by the SAAOs regarding agricultural extension at field level and to explore the relationships between the selected characteristics of the SAAOs and the faced problems. A number of 46 problems of SAAOs were selected as the focus issue (dependent variable). The study was conducted in Batiaghata and Dumuria upazila under Khulna district. Data were collected from randomly selected 53.97% of the SAAOs (34 out of 63) from each upazila, using an interview schedule during July10 to September 25 of 2019. A problem severity index (PSI) was used to make comparison among the 46 selected problems. Spearman's Rank Order Correlation Coefficient (ρ) was used to ascertain the relationship between the focus issue (ordinal type of data) and personal characteristics of the respondents. In Batiaghata upazila about two-third of the SAAOs (61.5%) had moderate problems where, "slow rate of promotion compares to other govt. job", "difficulties of getting promotion" and "shortage of manpower" ranked 1st, 2nd and 3rd position, respectively. In Dumuria upazila majority of the SAAOs (71.4%) had moderate problems where, "every block covers large area", "shortage of manpower" and "difficulties of getting promotion" ranked 1st, 2nd and 3rd position, respectively. Student t-test result (t Stat 0.35; P(T<=t) two-tail 0.73) showed that there is no significant difference between the problems faced by the SAAOs of Dumuria and Batiaghata upazila. There was no significant relationship between extent of problems and selected characteristics in Batiaghata and Dumuria upazila, except job experience of SAAOs had showed a positive significant relationship. The SAAOs are facing various newly emerged problems at present while conducting agricultural extension activities which should be taken under consideration for priority based solution for sustainable agricultural advancement.

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INTRODUCTION

Bangladesh is predominantly an agrarian country (Rezwan, 2005). Bangladesh is a country where agriculture sector plays a vital role in accelerating the economic growth (Bangladesh Economic Review, 2017). Due to its very fertile land and favorable weather, varieties of crops grow abundantly in this country. The economy of Bangladesh primarily receives about 14.7% contribution to country's GDP (Bangladesh GDP from Agriculture, 2006-2019 Data). About 40.06% of the labor forces are employed in agriculture (BBS, 2019). Under the Department of Agricultural Extension (DAE), there is one Sub Assistant Agriculture Officer (SAAO) for each block and each union of the local government is divided into three blocks. The implementation of the plan of action of the DAE to support the farmers is the leading task of the SAAOs (DAE, 2016) The SAAOs are intensively related to agricultural production as well as the mitigation of the problems of agriculture. They have the responsibility to organize different activities done by the farmers for proper crop production. They help the farmer or the farm authority for various aspects. To provide high quality extension services, the DAE employs 12,640 SAAOs at the field level (Bappi, 2010).

The SAAOs are responsible from the very beginning for day to day visits in their block, where DAE's target involves all categories of farmers to its extension services (NAEP, 1996). Today, our agriculture is formed with modern technologies. These technologies have made the agriculture more productive and efficient. With making the agriculture productive it has created lots of problems related to the agricultural extension at field level. Over the past decades the problems are shifted. Farmers and the SAAOs are facing the problems at different severity level at this present situation. Since the extensive coverage of each SAAO is very large, the success or failure of his/her extension skills level in the following areas: working with the group, organizing and running a demonstration, assessing farmers' problems and work planning (Ahmed, 2007).

The constructive comparison between the problems can made it possible to give priority on the problems based on their severity from the past decades to present. The problems are differing from areas to areas and the severities are also variable. To identify the problems regarding agricultural extension different research has already been made. The results have showed the problems during the periods in the past. With the introduction of modern agricultural technologies and practices the problems are shifted from the past time.

The Government and different NGOs are working cooperatively to find out the problems related to agricultural extension at field levels faced by the SAAOs. They are working cooperatively so that the problems can be overcome and to satisfy the farmers and SAAOs needs. By overcoming the problems, our agriculture can be made more efficient and cost effective. But there's scanty research works on the comparison of the problems regarding agricultural extension faced by the SAAOs at different places. Therefore, the researchers felt the necessity to conduct a research work on comparison of constraints faced by the SAAOs at field level of agricultural extension.

To bring about desirable changes among the SAAOs regarding agricultural works, the problems in extension services should be identified as crucial factors. To know the problems faced by the SAAOs in agricultural extension, this study is thought to be helpful. This study might be useful in further planning by the researcher, planner, educators and development agencies to uphold the status of agricultural extension services in Bangladesh. During fulfilling their activities or doing their job the SAAOs have to face a lot of problems. The problems related to SAAOs are also shifted over time. Now the problems are related to their job satisfaction or with information technologies. The communication style of the country has changed over time. In the past, people used mostly personal contact but at present, advanced technologies are being used for communication. The personal needs and national needs have changed and scope and application of information technologies increased now a days. Production intensity of crops increased and huge crop diversity have been seen throughout the country. Previously people practiced mainly monocropping system but now they are mainly practicing multiple cropping system and farmers as well as the SAAOs are facing different sorts of problems regarding all these issues.

Bangladesh is now in third position for vegetable cultivation in the world. Every year different types of crops and vegetables are being exported from our country. The researchers of this study think that, to sustain the flow of improvement in agriculture it is needed to overcome the problems faced by the SAAOs, because they are able to initiate a new era of agriculture through disseminating agricultural innovations among the farmers. Thus the following specific objectives were formulated to conduct this piece of study.

I. To determine and describe the selected characteristics of the SAAOs.
II. To analyze the problems faced by the SAAOs in conducting extension activities.
III. To measure the extent of problem in agricultural extension.
IV. To explore the relationship between the selected characteristics of the respondents with the extent of problem.

METHODOLOGY

The study was completed following "descriptive and diagnostic" research design in Batiaghata and Dumuria upazila at Khulna district. The researchers selected Batiaghata and Dumuria upazila and randomly selected 13 SAAOs from Batiaghata upazila (out of total 21 SAAOs) and 21 SAAOs from Dumuria upazila (out of total 42 SAAOs) for the research purpose. The data was collected from the SAAOs (53.97% of the total) by face to face contact with an interview schedule during July 10 to September 25 of 2019. The SAAOs remain very busy in executing departmental duties and responsibilities by moving to and fro all the days of a week, and thus it is very difficult to include all of them in the interview. The selected characteristics of the respondents were age, educational qualification, family size, job experience, family income, training received, organizational participation and cosmopolitanism. All selected characteristics were measured following standard procedure and then categorized and arranged in simple tables for interpretation and discussion. Number, frequency, percentage, mean, standard deviation and range were used for statistical description. Spearman's Rank Order Correlation Coefficient "ρ" was used to ascertain the relationship between selected characteristics of the respondents and faced problems. Throughout the study, at least five percent (0.05) level of probability was used. Student t-test was performed to find out the difference between the problems faced by the SAAOs of Dumuria and Batiaghata upazila.

Problem severity score was computed for each respondent from his/her response to the asked question. Each respondent was asked to indicate his/her response against problems on selected broad areas (typologies) related to, or somehow having influence on, agricultural extension, such as (1) personal related (2) field/economic related (3) IT related (4) job satisfaction related and (5) other. Ultimately 46 problems of SAAOs were incorporated, after having rigorous discussion with upazila level BCS (Agril.) Officers and University Teachers who are involved in extension teaching, in the interview schedule (Table 2). The researchers have chosen wide varieties of problems faced by the SAAOs as an attempt to not exclude any of a problem consciously. Each respondent was asked to identify the problems intensity he/she has faced along with the extent of the problem against each of the statements. The extent of the problem was measured using 5-piont rating scale as 'severe', 'acute', 'moderate', 'less severe' and 'not at all', and the rating scale was assigned scores as 4, 3, 2, 1, 0, respectively. The problem extent score of a respondent was determined by summing the scores of all the problems. The possible range of score was 0 to 184. The severity of an individual problem was determined based on problem severity index (PSI). The possible range of PSI was 0 to 52 in Batiaghata and 0 to 84 in Dumuria upazila. The PSI was determined by using the following formula:

$PSI= N_1\times4+N_2\times3+N_3\times2+N_4\times1+N_5\times0$

Where,

N_1= Number of respondents extended the problems and related as severe
N_2= Number of respondents extended the problems and rated as acute
N_3= Number of respondents extended the problems and rated as moderate
N_4= Number of respondents extended the problems and rated as less
N_5= Number of respondents did not extent the problems at all

After determination of PSI, the severity of the problem was determined by following formula (%) Severity of the problem $=\frac{\text{observe problem extension score}}{\text{possible problem extension score}}\times100$

The rank order of the problems was determined based on the severity (%) of the problem. The problem which obtained the highest percentage of severity got the first rank and then the second rank and so on. The rank continued from 1st to 46th to ensure relative position of every included problem.

RESULTS AND DISCUSSION

A. Selected characteristics of the SAAOs

In Batiaghata upazila majority of the respondents were in middle aged category that is about 53.8% where in Dumuria upazila majority of respondents were young aged (66.7%) (Table 1). In both case old people faced less problem compare to young and middle aged people. Islam et al. (2017) found majority (61.8%) of the extension workers were old. Educational qualification of the respondents in Batiaghata upazila ranged from 14 to 16 years of schooling with the average of 14.15. Among them highest proportion (92.3%) of the respondents had undergraduate level of education. Education of the respondent SAAOs in Dumuria upazila ranged from 12 to 16 years of schooling with the average of 13.90. Among them highest proportion (85.7%) of the respondents had undergraduate level of education (Table 1). Hasan et al. (2017) found most percentage i.e., 58.3% and 32.2% of the respondents obtained their Diploma in Agriculture degree after completing Secondary School Certificate (SSC) and after Higher Secondary Certificate (HSC) examination, respectively.
The family size of the respondents of both upazilas was small (Table 1). Islam et al. (2017) found majority (65.76%) respondents had small sized family. The SAAO's of both upazila had medium job experience. Islam et al. (2017) found SAAOs had long job experience of more than 20 years (74.5%) (Table 1). The SAAOs had higher monthly family income in both the upazilas (Table 1). Mondol et al. (2019) found majority (52.80%) of the respondents belonged to medium income group. The respondents from both upazilas have received 100% training. Hasan et al. (2017) found majority (75%) of the extension professionals received less than 10 service-trainings during their service period.

The respondents have low organizational participation in both the upazilas (Table 1). Islam et al. (2017) found majority (84.7%) of respondents had low organizational participation. The respondents of both upazilas have medium level of cosmopolitanisms (Table 1). Hasan et al. (2017) found that majority (55.7%) of respondents had medium cosmopolitanism.

B. Analysis of the problems faced by the SAAOs in conducting extension activities

As the economy of Bangladesh mostly depends on agriculture either directly or indirectly, the authority of Bangladesh agriculture has to find out the main problems in agriculture. There are many problems in agriculture in Bangladesh. If we identify the major problems in agriculture, we can find the possible solutions. The SAAOs are the field level worker in agricultural extension. They contact with the local farmers and identify their problems and give them probable solutions. The SAAOs are facing many problems regarding agricultural extension.

The data presented in Table 2 showed the different problems of SAAOs during their work along with severity. In Batiaghata upazila the score of severity ranged from 4 to 49 where possible range was 0 to 52. Slow rate of promotion of SAAOs compare to other govt. job was the first ranked problem. Difficulties of getting promotion, shortage of manpower, every block cover large area and large area has to be covered by an SAAO were the second, third, fourth and fifth ranked problems.

Table 1. Selected characteristics of the respondents

Characteristics	Location	Categories	Number	%	Mean	S.D.	Range
Age (Years)	Batiaghata N=13	Young (≤35)	4	30.8	42.30	10.87	29-59
		Middle (36-55)	7	53.8			
		Old (>55)	2	15.4			
	Dumuria N=21	Young (≤35)	4	19.0	46.47	10.89	26-57
		Middle (36-55)	14	66.7			
		Old (>55)	3	14.3			
Educational Qualification (Schooling years)	Batiaghata N=13	Illiterate (0)	0	0	14.15	0.55	14-16
		Can sign only (0.5)	0	0			
		Primary (1-5)	0	0			
		Secondary (6-10)	0	0			
		HSC (11-12)	0	0			
		Undergrad (13-16)	12	92.3			
		Post-grad (>16)	1	7.7			
	Dumuria N=21	Illiterate (0)	0	0	13.90	0.76	12-16
		Can sign only (0.5)	0	0			
		Primary (1-5)	0	0			
		Secondary (6-10)	0	0			
		HSC (11-12)	2	9.5			
		Undergrad (13-16)	18	85.7			
		Post-grad (>16)	1	4.8			
Family Size (Number)	Batiaghata N=13	Small (≤4)	6	46.2	5.15	1.72	3-8
		Medium (5-6)	4	30.8			
		Large (>6)	3	23.1			
	Dumuria N=21	Small (≤4)	12	57.1	4.42	1.32	3-8
		Medium (5-6)	8	38.1			
		Large (>6)	1	4.8			
Job Experience (Years)	Batiaghata N=13	Low (≤10)	4	30.8	15.38	11.92	2-38
		Medium (11-20)	6	46.2			
		High (>20)	3	23.1			
	Dumuria N=21	Low (≤10)	4	19.0	17.28	8.73	2-30
		Medium (11-20)	9	42.9			
		High (>20)	8	38.1			
Family Income “000”BDT / month	Batiaghata N=13	Low (<15)	0	0	26.69	4.09	21-35
		Medium (15-20)	0	0			
		High (>20)	13	100			
	Dumuria N=21	Low (<15)	0	0	23.19	3.99	16-28
		Medium (15-20)	4	19			
		High (>20)	17	81			

Table 1. Selected characteristics of the respondents (Contd.)

Characteristics	Location	Categories	Number	%	Mean	S.D.	Range
Training Received (Number)	Batiaghata N=13	No (0)	0	0	8.23	3.65	4-15
		Low (≤2)	0	0			
		Medium (3-5)	4	30.8			
		High (>5)	9	69.2			
	Dumuria N=21	No (0)	0	0	7.47	2.06	4-12
		Low (≤2)	0	0			
		Medium (3-5)	3	14.3			
		High (>5)	18	85.7			
Organizational Participation (Score) Possible range 0-24	Batiaghata N=13	Low (≤8)	13	100	4.46	1.80	1-7
		Medium (9-16)	0	0			
		High (>16)	0	0			
	Dumuria N=20	Low (≤8)	20	100	1.90	1.02	1-4
		Medium (9-16)	0	0			
		High (>16)	0	0			
Cosmopolitanism (Score) Possible range 0-15	Batiaghata N=13	Low (≤5)	0	0	10.07	1.65	8-13
		Medium (6-10)	9	69.2			
		High (>10)	4	30.8			
	Dumuria N=21	Low (≤5)	1	4.8	7.66	1.27	5-10
		Medium (6-10)	20	95.2			
		High (>10)	0	0			

Table 2. Problem severity index of SAAOs at Batiaghata

Problems	Not at all (0)	Less problem (1)	Moderate problem (2)	Acute problem (3)	Severe problem (4)	Score	%	Rank
Personal								
Low communication skill of several SAAO	0×3	1×7	2×2	3×1	4×0	14	26.92	41th
Low leadership skill of several SAAO	0×1	1×8	2×4	3×0	4×0	16	30.76	38th
Lack of practical knowledge	0×9	1×2	2×1	3×1	4×0	7	13.46	45th
SAAO have low opportunity to express their ideas	0×1	1×4	2×6	3×2	4×0	22	42.31	23th
Tendency of taking incentives	0×9	1×4	2×0	3×0	4×0	4	7.69	46th
Low motivation	0×2	1×7	2×4	3×0	4×0	15	28.84	40th
Inability to provide instant solution	0×2	1×1	2×7	3×3	4×0	24	46.15	19th
Many SAAO are not friendly with farmers	0×2	1×3	2×6	3×2	4×0	21	40.38	28th
Some SAAO do not take any risk of technology transfer	0×0	1×4	2×9	3×0	4×0	22	42.31	24th
Tendency to support rich farmers	0×1	1×7	2×2	3×2	4×1	21	40.38	29th
Field/ Farmer Oriented								
Large area has to be covered by an SAAO	0×0	1×0	2×4	3×6	4×3	38	73.07	5th
Maximum area are located in remote	0×1	1×5	2×4	3×3	4×0	22	42.31	25th
Farmers are not cooperative	0×5	1×2	2×4	3×2	4×0	16	30.76	39th
Tendency of farmers to cultivate in traditional ways	0×0	1×2	2×6	3×5	4×0	29	55.77	13th
Low eagerness of local people being a local leader	0×1	1×3	2×7	3×2	4×0	23	44.23	21th
Tendency of not helping of poor farmers	0×1	1×5	2×5	3×2	4×0	21	40.38	30th
Low crop diversity in many areas	0×0	1×5	2×5	3×2	4×1	25	48.07	16th
Farmers are not agreed to make model demonstration plots	0×0	1×2	2×5	3×5	4×1	37	71.15	6th
Many farmers do not share their problems	0×6	1×2	2×3	3×2	4×0	14	26.92	42th
Tendency to avoid farmers meeting	0×2	1×3	2×7	3×1	4×0	20	38.46	33th
Farmers are not agreed to accept new technologies/ laggard	0×1	1×1	2×9	3×2	4×0	25	48.07	17th

Table 2. Problem severity index of SAAOs at Batiaghata (contd.)

Problems	Not at all (0)	Less problem (1)	Moderate problem (2)	Acute problem (3)	Severe problem (4)	Score	%	Rank
IT Related								
Low social media contact facilities	0×4	1×1	2×2	3×0	4×5	25	48.07	18th
Electricity problems of remote areas	0×1	1×4	2×6	3×2	4×0	22	42.31	26th
Shortage of computer	0×0	1×1	2×2	3×8	4×2	37	71.15	7th
Difficulties to internet access	0×1	1×4	2×1	3×4	4×3	30	57.69	11th
Majority of the SAAO has low IT knowledge	0×1	1×0	2×5	3×7	4×0	31	59.61	10th
Many SAAO's cannot operate computer	0×1	1×1	2×3	3×4	4×4	35	67.31	8th
Job Satisfaction Related								
Low job satisfaction	0×3	1×5	2×4	3×0	4×1	17	32.69	36th
Low training facilities	0×2	1×8	2×3	3×0	4×0	14	26.92	43th
Low residential facilities	0×0	1×5	2×7	3×1	4×0	22	42.30	27th
Unimproved road facilities	0×0	1×6	2×6	3×1	4×0	21	40.38	31th
Low transportation facilities	0×1	1×3	2×4	3×1	4×4	30	57.69	12th
Difficulties of getting promotion	0×0	1×0	2×0	3×4	4×9	48	92.31	2nd
Slow rate of promotion compare to other govt. job	0×0	1×0	2×0	3×3	4×10	49	94.23	1st
Low salary scale	0×1	1×2	2×9	3×1	4×0	23	44.23	22th
Low logistics facilities	0×0	1×6	2×7	3×0	4×0	20	38.46	34th
SAAOs do not get proper social respect	0×4	1×8	2×1	3×0	4×0	10	19.23	44th
The seniors do not take any responsibilities of failure of SAAOs	0×0	1×4	2×7	3×2	4×0	24	46.15	20th
SAAOs do not get proper govt. support	0×0	1×0	2×5	3×8	4×0	34	65.38	9th
The SAAO members look forward to other job	0×0	1×8	2×3	3×1	4×1	21	40.38	32th
Other								
Shortage of manpower	0×0	1×0	2×1	3×3	4×9	47	90.38	3rd
Lack of innovation	0×1	1×5	2×6	3×1	4×0	20	38.46	35th
Limited financial budget to conduct extension program	0×0	1×4	2×5	3×3	4×1	27	51.92	14th
Lack of networking with other block farmers	0×4	1×3	2×5	3×0	4×1	17	32.69	37th
Lack of planning of any program	0×1	1×1	2×9	3×2	4×0	25	48.67	15th
Every block cover large area	0×1	1×0	2×3	3×3	4×6	39	75	4th

The data presented in Table 3 showed different problems of SAAOs during their work and their severity. In Dumuria upazila the score of severity ranged from 9 to 72 where possible range was 0 to 84. Every block covers large area was the first ranked problem. Shortage of manpower, Difficulties of getting promotion, Slow rate of promotion compare to other govt. job and Shortage of computer were the second, third, fourth and fifth ranked problem.

Table 3. Problem severity index of SAAOs at Dumuria

Problems	Not at all (0)	Less problem (1)	Moderate problem (2)	Acute problem (3)	Severe problem (4)	Score	%	Rank
Personal								
Low communication skill of several SAAO	0×3	1×9	2×9	3×0	4×0	27	32.14	37th
Low leadership skill of several SAAO	0×2	1×9	2×10	3×0	4×0	29	34.52	34th
Lack of practical knowledge	0×0	1×5	2×14	3×2	4×0	39	46.43	25th
SAAO have low opportunity to express their ideas	0×0	1×2	2×10	3×9	4×0	49	58.33	12th
Tendency of taking incentives	0×9	1×12	2×0	3×0	4×0	12	14.28	43th
Low motivation	0×7	1×12	2×2	3×0	4×0	16	19.04	40th
Inability to provide instant solution	0×1	1×3	2×16	3×1	4×0	38	45.23	26th
Many SAAO are not friendly with farmers	0×14	1×6	2×0	3×1	4×0	9	10.74	46th
Some SAAO do not take any risk of technology transfer	0×4	1×6	2×11	3×0	4×0	28	33.33	35th
Tendency to support rich farmers	0×12	1×7	2×1	3×1	4×0	12	14.28	44th
Field/ Farmer Oriented								
Large area has to be covered by an SAAO	0×5	1×2	2×5	3×3	4×6	45	53.57	14th
Maximum areas are located in remote	0×4	1×6	2×5	3×4	4×3	40	47.62	23th
Farmers are not cooperative	0×11	1×4	2×6	3×0	4×0	16	19.04	41th
Tendency of farmers to cultivate in traditional ways	0×2	1×4	2×9	3×7	4×0	43	51.19	17th
Low eagerness of local people being a local leader	0×1	1×4	2×10	3×6	4×0	42	50	19th
Tendency of not helping of poor farmers	0×7	1×12	2×2	3×0	4×0	16	19.04	42th
Low crop diversity in many areas	0×3	1×1	2×8	3×9	4×0	44	52.38	16th
Farmers are not agreed to make model demonstration plots	0×4	1×0	2×8	3×9	4×0	43	51.19	18th
Many farmers do not share their problems	0×10	1×10	2×1	3×0	4×0	12	14.28	45th

Table 3. Problem severity index of SAAOs at Dumuria (contd.)

Problems	Not at all (0)	Less problem (1)	Moderate problem (2)	Acute problem (3)	Severe problem (4)	Score	%	Rank
Tendency to avoid farmers meeting	0×2	1×6	2×10	3×2	4×0	32	38.09	31th
Farmers are not agreed to accept new technologies/ laggard	0×2	1×4	2×9	3×6	4×0	40	47.61	24th
IT Related								
Low social media contact facilities	0×8	1×1	2×1	3×6	4×5	41	48.81	21th
Electricity problems of remote areas	0×1	1×12	2×6	3×0	4×2	32	38.09	32th
Shortage of computer	0×0	1×1	2×6	3×9	4×5	60	71.43	5th
Difficulties to internet access	0×1	1×4	2×4	3×7	4×5	53	63.09	8th
Majority of the SAAO has low IT knowledge	0×1	1×3	2×9	3×8	4×0	45	53.57	15th
Many SAAO can not operate computer	0×0	1×4	2×2	3×12	4×3	56	66.67	7th
Job Satisfaction Related								
Low job satisfaction	0×4	1×4	2×12	3×0	4×1	32	38.09	33th
Low training facilities	0×1	1×7	2×13	3×0	4×0	33	39.28	30th
Low residential facilities	0×0	1×3	2×16	3×2	4×0	41	48.81	22th
Unimproved road facilities	0×2	1×1	2×4	3×13	4×1	52	61.90	9th
Low transportation facilities	0×0	1×2	2×6	3×11	4×2	51	60.71	10th
Difficulties of getting promotion	0×1	1×0	2×1	3×8	4×11	70	83.3	3rd
Slow rate of promotion compare to other govt. job	0×0	1×1	2×2	3×10	4×8	68	80.95	4th
Low salary scale	0×3	1×2	2×9	3×6	4×1	42	50	20th
Low logistics facilities	0×1	1×7	2×9	3×3	4×1	38	45.23	27th
SAAOs do not get proper social respect	0×8	1×5	2×3	3×5	4×0	26	30.95	38th
The seniors do not take any responsibilities of failure of SAAOs	0×3	1×4	2×12	3×2	4×0	34	40.47	29th
SAAOs do not get proper govt. support	0×0	1×7	2×12	3×1	4×1	38	45.23	28th
The SAAO members look forward to other job	0×3	1×12	2×3	3×2	4×1	28	33.33	36th
Other								
Shortage of manpower	0×0	1×0	2×7	3×0	4×14	70	83.33	2nd
Lack of innovation	0×0	1×4	2×5	3×12	4×0	50	59.52	11th
Limited financial budget to conduct extension program	0×0	1×2	2×3	3×15	4×1	57	67.85	6th
Lack of networking with other block farmers	0×1	1×15	2×4	3×1	4×0	26	30.95	39th
Lack of planning of any program	0×0	1×5	2×7	3×9	4×0	46	54.76	13th
Every block covers large area	0×1	1×0	2×2	3×4	4×14	72	85.71	1st

Slow rate of promotion compared to other govt. job was the first ranked problem in Batiaghata upazila but it was the fourth ranked problem in Dumuria (Table 4). Difficulty of getting promotion was the second ranked problem in Batiaghata upazila but it was the third ranked problem in Dumuria. Shortage of manpower was the third ranked problem in Batiaghata upazila but it was the second ranked problem in Dumuria. Every block cover large area was the fourth ranked problem in Batiaghata upazila but it was the first ranked problem in Dumuria. All the problems are very important and have impact on agricultural extension.

Table 4. Comparison among ten top-ranked problems between two upazilas

Severe 10 problems in Batiaghata upazila	Severe 10 problems in Dumuria upazila
1. Slow rate of promotion compare to other govt. job	1. Every block covers large area
2. Difficulties of getting promotion	2. Shortage of manpower
3. Shortage of manpower	3. Difficulties of getting promotion
4. Every block cover large area	4. Slow rate of promotion compare to other govt. job
5. Large area has to be covered by an SAAO	5. Shortage of computer
6. Farmers are not agreed to make model demonstration plots	6. Limited financial budget to conduct extension program
7. Shortage of computer	7. Many SAAO cannot operate computer
8. Many SAAO cannot operate computer	8. Difficulties to internet access
9. SAAOs do not get proper govt. support	9. Unimproved road facilities
10. Majority of the SAAO has low IT knowledge	10. Low transportation facilities

C. Extent of problem in agricultural extension

The data presented in Table 5 indicate that majority of the SAAOs (61.5%) had moderate problems and rest (38.5%) SAAOs had acute problems. The minimum and maximum score was 71 and 102 with the mean of 85.69 and standard deviation of 9.77 in Batiaghata upazila. In Dumuria upazila majority of the SAAOs (71.4%) had moderate problems and rest (28.6%) SAAOs had acute problems. The minimum and maximum score was 63 and 104 with the mean of 84.33 and standard deviation of 12.69. The role of extension service is performed by the SAAOs. It might be said that they have good interaction with rural people in sharing technological information. However, SAAOs face different problems in transferring technological information properly. The findings from Hossain et al. (2019) reveal that 70.50% of the SAAOs encounter high problems while 27.90% and 1.60% respondents were in medium and low problem category respectively. This result is in line with our findings too. Spearman's Rank Correlation Coefficient analysis also revealed that training exposure, job satisfaction and use of the internet showed a negative significant relationship with the problems faced in technology transfer. Based on Problem Faced Index (PFI), "lack of required teaching aid" ranked the highest problem followed by "lack of transportation facilities" (Hossain et al., 2019).

Table 5. Distribution of SAAOs on the basis of extent of problem

Problems of SAAOs	Categories	Score	N=13		Mean	Standard Deviation	Range (observed)	
			Number	%			Minimum	Maximum
Batiaghata Possible range 0-184	No	0	0	0	85.69	9.77	71	102
	Less	1-46	0	0				
	Moderate	46-92	8	61.5				
	Acute	93-138	5	38.5				
	Severe	>138	0	0				
			N=21					
			Number	%				
Dumuria Possible range 0-184	No	0	0	0	84.33	12.69	63	104
	Less	1-46	0	0				
	Moderate	46-92	15	71.4				
	Acute	93-138	6	28.6				
	Severe	>138	0	0				

Student t-test result (t Stat 0.35; P(T<=t) two-tail 0.73) showed that there is no significant difference between the problems faced by the SAAOs of Dumuria and Batiaghata upazila.

D. Relationship between the selected characteristics of the respondent SAAOs and their extent of problem:

Correlation between extent of problem of SAAOs and selected characteristics of Batiaghata and Dumuria upazila has been presented in Table 6.

Table 6. Relationship between the selected characteristics of the respondent SAAOs and their extent of problem (Batiaghata and Dumuria)

Selected Characteristics	Focus Variable	Coefficient of Correlation	
		Batiaghata	Dumuria
Age	Extent of problem of SAAOs	0.354	0.175
Educational qualification		0.225	0.014
Family Size		-0.264	-0.353
Job experience		0.362	0.458*
Family income		0.408	0.303
Organizational participation		-0.293	-0.419
Training received		0.238	0.238
Cosmopolitanism		-0.328	0.081

In Batiaghata upazila, among the eight characteristics family size, organizational participation and cosmopolitanism had negative and non significant relationship with extent of problem of SAAOs. On the other hand, age, educational qualification, job experience, family income and training received had positive and non significant relationship with extent of problem of SAAOs. Based on the findings, null hypothesis is accepted.

In Dumuria upazila, among the eight characteristics job experience had positive and significant relationship with extent of problem of SAAOs at 5% level of significance. Based on the findings, null hypothesis could be rejected and research hypothesis was accepted. It means that the higher the job experience the higher is the ability to identify their problems in agricultural extension service. Family size and organizational participation had negative but non-significant relationship with extent of problem of SAAOs. Age, educational qualification family income, training received and cosmopolitanism had positive and non significant relationship with extent of problem of SAAOs. Based on the findings, null hypothesis is accepted.

Majority (61.5%) of the SAAOs had moderate problems in Batiaghata upazila and in Dumuria upazila (71.4%) of the SAAOs had moderate problems. In Batiaghata upazila the Problem Severity Index (PSI) of SAAOs scores ranged from 4 to 49where possible range was 0 to 52. According to PSI, slow rate of promotion of SAAOs compare to other govt. job, difficulties of getting promotion, shortage of manpower, every block cover large area and large area has to be covered by an SAAO ranked 1st, 2nd, 3rd, 4th and 5th respectively. In Dumuria upazila the Problem Severity Index (PSI) of SAAOs scores ranged from 9 to 72 where possible range was 0 to 84. According to PSI, every block covers large area shortage of manpower, difficulties of getting promotion, slow rate of promotion compare to other govt. job and shortage of computer ranked 1st, 2nd, 3rd, 4th and 5th respectively.

The present study was designed to have an understanding of the problems of extension services by the SAAOs at the field levels of DAE to explore its relationship with their selected characteristics. The findings of the study would in particular be applicable to Batiaghata and Dumuria upazila of Khulna district. However, the findings might also be applicable to other areas of Bangladesh where socio-cultural, psychological and economic situation do not differ much than those of the present study areas. The findings might be helpful to identify the constraints and comparison to give priority depending on the severity. Lastly, it might be assumed that the issues raised in this study would be helpful in formulating extension programs for overcoming the constraints of extension service and increasing agricultural productions in the country.

CONCLUSIONS

The findings of the study indicate that all (100%) of the respondent were in moderate to acute problem extent category. Common problems faced by the SAAOs were “slow rate of promotion of SAAOs compared to other govt. jobs”, “difficulties of getting promotion”, “shortage of manpower”, “every block cover large area”, “large area has to be covered by an SAAO”, and “shortage of computer”. Among the identified 46 problems in agricultural extension slow rate of promotion of SAAOs compare to other govt. job was highly severe problem. It might be prevailing due to lack of Governmental awareness regarding promotion policies. Job experience showed positive significant relationship with problem extent. This indicates that the SAAOs who had high experience can easily identify their problems and can solve them in a proper way. Thus it could be said that the SAAOs are facing various newly emerged problems while conducting agricultural extension activities which should be taken under consideration for priority based solution for sustainable agricultural advancement.

CONFLICT OF INTEREST

The author declares that there is no conflict of interest.

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