

CHAPTER 4

FINDINGS AND DISCUSSION

The findings of this study and their logical interpretations have been systematically presented in the four sections of this Chapter according to the set objectives. The first section deals with the existing work design of the SAAOs. The second one deals with the job performance of the SAAOs. The third one deals with the influence of the selected characteristics of the SAAOs on their job performance. Finally, the fourth one represents the challenges of improving the work design and job performance of the concerned SAAOs. In addition, the findings are discussed taking support from the results of the previous researchers of home and abroad as accessible.

4.1 Overall Work Design of the SAAOs

The work design was considered from four dimensions: job demands, job control, perceived organizational support, and perceived colleagues' support. The observed work design score ranged from 28 to 114, with a possible range of 0 to 123 (Table 4.1). The mean score of the existing work design was 68.70, with a standard deviation of 23.64. Based on the possible range of the work design, the overall work design is classified into three categories, namely 'poor work design' (1-41), 'good work design' (42-82), and 'excellent work design' (above 82).

Table 4.1 Distribution of the work design score of the SAAOs

Categories	Frequency	Percentage	Mean	Std. deviation
Poor work design (1-41)	10	14.1	68.70	23.64
Good work design (42-82)	37	52.1		
Excellent work design (above 82)	24	33.8		
Total =	71	100.0		

It is clear from the results presented in Table 4.1 that more than half (52.1%) of the SAAOs' work design belonged to the 'good work design' category. In comparison, one-third (33.8%) of the SAAOs' work design belonged to the 'excellent work design' category, while only 14.1% of the SAAOs' work design belonged to the 'poor work design' category. The findings implied that more than 80% of the respondent's responses to the existing work design belonged to the good to excellent categories.

The work design is very crucial in excelling an individual's job performance. A well-organized, efficient, and work-friendly work design has the potential to change an individual's job performance from mediocre to excellent. For this study, the SAAOs' level of work design was quite satisfactory, which is expected to reflect on their overall job performance. This finding is supported by Abid et al. (2013), who found that the overall job design was considerably good, flexible, clear, feedback provider, and acceptable for the employees, which ultimately enhanced employees' overall performance at the job.

4.1.1 Dimension-wise work design of the SAAOs

The dimension-wise descriptive statistics of the work design are presented in Table 4.2.

Table 4.2 Dimension-wise descriptive statistics of the work design

Work design dimensions	Minimum	Maximum	Std. deviation	WDDIs
Job demands	44	148	30.44	118.00
Job control	97	137	12.00	112.31
Perceived organizational support	111	131	7.71	122.00
Perceived colleagues' support	132	161	12.58	140.40

WDDIs = Work design dimension indices

It becomes lucid from the results presented in Table 4.2 that, based on the Work Design Dimension Indices (WDDIs) of the four dimensions of the work design, perceived colleagues' support was the top-ranked one (WDDI = 140.40) followed by the perceived organizational support (WDDI = 122.00), job demands (WDDI = 118.00), and job control (WDDI = 112.31) as well. Most of the SAAOs thought that they got more cooperation from their colleagues in their workplace. They could quickly solve various problems at the field level by collaborating with their colleagues. Thus, this dimension might have ranked first among the four items studied.

On the other hand, the SAAOs might think that the DAE as an organization was more aware of the social status of field-level employees nowadays. Recent rearrangement of the designation and salary scale of the SAAOs might influence to rank the organizational support in the second position among the other dimensions noted. In addition, the DAE helped them appraise their performance and took the necessary initiatives to boost their the then performance.

The job demands, and job control is the least ranked dimensions. The administration needed to pay sincere attention to these dimensions to get the momentum in their performance. Debnath et al. (2014) also used item-wise calculated mean score and index of the job competence sub-items of the research of ‘Job Competence’ and ‘Job Performance’ of the Extension Personnel of the DAE.

4.1.2 Rank orders of the items of job demands

The ranking of job demands through the Job Demands Index (JDI) was done to compare the items of the ‘job demands’ dimension of the work design. The item-wise ranking distribution is presented in Table 4.3.

Table 4.3 Rank orders of the items of the job demands

Items	JDI	RO
Feels good to be busy at work	148	1
Work requires constant attention	139	2
Requires forecasting to prevent crop damage	135	3
Work is done following the monitoring and evaluation process	134	4
Additional attention is required for work planning	131	5
Need to take immediate action to prevent problems arising	130	6
Requires to work very quickly	128	7.5
Requires teamwork to do a lot	128	7.5
Arrangement for timely training of the farmers	123	9
Working under extreme pressure	122	10
Need to do multiple things at a time	121	11.5
Complex problems require more time to solve	121	11.5
Field level knowledge is required to solve bureaucratic problems	119	13
Requires effective problem identification to avoid production damage	47	14
Requires attention to avoid various kinds of damage	44	15

JDI= Job Demands Index; RO= Rank order

The results presented in Table 4.3 highlight that the Job Demands Indices (JDIs) of the 15 selected items of job demands of SAAOs ranged from 44 to 148 against the possible range of 0 to 213. The top-ranked item in job demands was “feels good to be busy at work” (JDI = 148). Most of the SAAOs thought that both body and mind were better when they were at work. They felt that their work led to well-being and tranquility. So, they indicated that their first priority was keeping themselves busy and occupied in their designated work and responsibilities.

The second-ranked item of the job demands was “work requires constant attention” (JDI = 139). Respondents felt that if the agricultural extension activities were not done with constant attention at the field level, there could be a possibility of huge losses. That dealt with the timely formulation and dissemination of policies, technologies, and innovations. Thus, constant and sincere attention was required in that sector to achieve targeted goals within the anticipated timeframe without bearing any losses.

The third-ranked item of job demands was “requires forecasting to prevent crop damage” (JDI = 135). SAAOs felt that qualified field workers should understand crops well to predict crop damage before that occurred. The insurance of the crop forecasting through the most probable assessment of area coverage and production of a standing crop, was extremely crucial and needed to be carried out by field-level personnel like the SAAOs.

However, the least ranked three items were ‘field level knowledge is required to solve bureaucratic problems’ (JDI = 119), ‘requires effective problem identification to avoid production damage’ (JDI = 47), and ‘requires attention to avoid various kinds of damage’ (JDI = 44), respectively.

4.1.3 Rank orders of the items of job control

The ranking of the job control items through the Job Control Index (JCI) was done to determine the item-wise extent of the job control dimension of the work design. The ranking distribution of that dimension is presented in Table 4.4.

The results presented in Table 4.4 pinpointed that the Job Control Indices (JCIs) of the 16 selected items of the job control ranged from 96 to 137 against the possible range of 0 to 213. However, out of 16, the maximum, i.e., 13 items exceeded JCI of 100, but only three got the score of less than 100. The top-ranked item of the job control was “the authorities are functional towards my decisions” (JCI = 137). Most of the SAAOs felt that work at the field level required immediate decision-making. Therefore, considering the qualifications and efficiency, the authorities tended to implement the decisions of the field workers. The SAAOs’ self-worth and confidence in their decision-making capabilities had posed a trust in themselves and their authorities, which might result in making that item the highest ranking among the other 16 items considered.

Table 4.4 Rank orders of the items of the job control

Items	JCI	RO
The authorities are functional towards my decisions	137	1
Decisions are made in accordance with the rules	127	2
Need high skill for the changing nature of the job	125	3
Requires experience to solve problems quickly	124	4
New things can be learned through work	122	5
Availability of opportunities to develop special abilities	117	6
Can complete the work according to plan of work	112	7
Provision for taking the advice of others when making decisions	111	8
Job allows to make a lot of decisions	110	9
Can determine the speed of work according to the work plan	108	10
Need to perform work periodically and on time	107	11
Can control the quality and quantity of the crop production in the respective block	103	12
There is always extra time to work in the office	102	13
Can control which crops farmers will cultivate	99	14
Obey properly during office hours	97	15
There is freedom to choose the method of work	96	16

JCI= Job Control Index; RO= Rank order

The second-ranked item was “decisions are made in accordance with the rules” (JCI = 127). Most of the SAAOs thought that, in order to control the work, it was necessary to be very efficient in decision-making according to the previously imposed rules of the organization. It was very crucial in bringing discipline to the work. Moreover, to maintain the ethics and regulations of an organization, it was important to abide by the particulars of the organization and move in line with them.

The third-ranked item was “need high skill for the changing nature of the job” (JCI = 125). Field-level personnel needed to be quick in their judgment and took immediate decisions in their work. For that purpose, boosting their efficiency and skills was critical. The SAAOs felt that gaining work-bound skills were necessary to succeed at the field level. Thus, that item may have ranked as the top third priority of the SAAOs.

However, the least ranked three items were, ‘can control which crops farmers will cultivate’ (JCI = 99), ‘obey properly during office hours’ (JCI = 97), and ‘there is freedom to choose the method of work’ (JCI = 96), respectively.

4.1.4 Rank orders of the items of perceived organizational support

The items of perceived organizational support were ranked through the Perceived Organizational Support Index (POSI) to determine the item-wise extent of the perceived organizational support dimension of work design. The item-wise ranking distribution of this dimension is presented in Table 4.5.

Table 4.5 Rank orders of the items of the perceived organizational support

Items	POSI	RO
Evaluate works regularly	131	1
Cares about opinions	126	2
Willingly help when problems arise	124	3
Consider unintentional mistakes	118	4
Show very little concern for me	111	5

POSI = Perceived Organizational Support Index, RO= Rank Order

It is very clear from the results presented in Table 4.5 that, based on the Perceived Organizational Support Indices (POSI) for organizational support, the five selected items ranged from 111 to 131 against the possible range of 0 to 213. The top-ranked item of perceived organizational support is “evaluate work regularly” (POSI = 131). Most of the SAAOs indicated that their organization evaluated their work regularly. Evaluation is necessary for maintaining the regulations as well as ensuring the consistency of work. Their authority believed that they were fit for the job and doing the work with confidence.

The second-ranked item is “cares about opinions” (POSI = 126). Since SAAOs had rather better knowledge about the field level, thus organizations cared about their opinions in policy or solution formulation and implementation. The least ranked two items are “consider unintentional mistakes” (POSI = 118) and “show very little concern for me” (POSI = 111), respectively.

4.1.5 Rank orders of the items of perceived colleagues’ support

The ranking of perceived colleagues’ support items was done through the Perceived Colleagues’ Support Index (PCSI) to determine the item-wise extent of perceived colleagues’ support dimension of work design. The item-wise ranking distribution of this dimension is presented in Table 4.6.

Table 4.6 Rank orders of the items of the perceived colleagues' support

Items	PCSI	RO
Feel a friendly working atmosphere with colleagues	161	1
Provides helpful information or advice	144	2
Provides practical help with feedback	133	3
Expresses sympathetic emotions and concerns	132	4.5
Feel fair competition with colleagues	132	4.5

PCSI= Perceived Colleagues' Support Index, RO= Rank Order

It becomes very transparent from the results presented in Table 4.6 that the Perceived Colleagues' Support Indices (PCSI) for colleagues' support of the five selected items ranged from 132 to 161 against the possible range of 0 to 213. The top-ranked item of the perceived colleagues' support was "feel a friendly working atmosphere with colleagues" (PCSI = 161). Most of the SAAOs felt an atmosphere of cooperation and friendliness among them. The successful collaboration among different minds generates ideas for solving critical problems. Moreover, an atmosphere of amicability boosts working speed and also generates a feeling of self-worth. The second-ranked item was "provides helpful information or advice" (PCSI = 144). Most of the SAAOs felt that peer support helpfully influenced them in improving work efficiency. A helpful insight during problem-solving goes a long way in working with efficiency. Thus, both items were higher ranked among the above activities. The least two ranked items were "expresses sympathetic emotions and concerns" (PCSI = 132) and "feel fair competition with colleagues" (PCSI = 132), respectively.

4.2 Job Performance of the SAAOs

The observed score of the job performance of SAAOs ranged from 42.5 to 112.0 with the possible range of 30 to 120. The mean score of the job performance of SAAOs was 75.67 with the standard deviation of 19.05. Based on the possible range, the job performance score of the SAAOs was classified into three categories, namely; 'low job performance' (30-60), 'moderate job performance' (61-90), and 'high job performance' (91-120). The distribution of the SAAOs according to their job performance scores is presented in Table 4.7. In addition, category-wise distribution of the response of SAAOs, their authority, and fellow farmers are also presented in Table 4.7.

Table 4.7 Category-wise distribution of the job performance of the SAAOs

Categories		Frequency	Percentage	Mean	Std. deviation
Overall	Low job performance (30-60)	23	32.4	75.67	19.05
	Moderate job performance (61-90)	31	43.7		
	High job performance (91-120)	17	23.9		
	Total =	71	100.0		
SAAOs' response	Low job performance (10-20)	23	32.4	25.97	8.18
	Moderate job performance (21-30)	29	40.8		
	High job performance (31-40)	19	26.8		
	Total =	71	100.0		
Authority's Response	Low job performance (10-20)	27	38.0	27.99	9.18
	Moderate job performance (21-30)	6	8.5		
	High job performance (31-40)	38	53.5		
	Total =	71	100.0		
Farmers' response	Low job performance (10-20)	33	46.5	21.71	7.19
	Moderate job performance (21-30)	27	38.0		
	High job performance (31-40)	11	15.5		
	Total (average of farmers) =	71	100.0		

Less than half (43.7%) of the SAAOs belonged to the 'moderate job performance' category. In comparison, around one-third (32.4%) of them had low job performance, and about a quarter (23.9%) had high job performance. The findings imply that more than three-fourths (76.1%) of the SAAOs had low to moderate job performance. The job performance was quite unsatisfactory, given the emphasis on the current state of existing work conditions. It was previously found that the existing work design was in a good to excellent state. In line with that, it is evident that the job performance of the SAAOs could have been better than what it is now was then. In that regard, certain initiatives are needed to be formulated and implemented. Setting milestones with clear and attainable goals, limiting distractions, avoiding multitasking, developing concrete infrastructure, communicating effectively, organizing, planning, and prioritizing could be carried out to boost and bring about the desirable job performance of the SAAOs.

A diverse response was observed in the job performance regarding the self-responses, their authority's responses, and fellow farmers' responses. The authority's response indicated that the SAAOs' job performance was high followed by low and medium; while the farmers' responses indicated that moderate and high levels low followed the SAAOs' job

performance. The high mean value was also found for the authority's response followed by the SAAOs' self-responses and their fellow farmers' responses. The findings indicate that the authority's response to high performance was high compared to farmers' responses and self-responses too. While the farmers' responses synchronized more or less with the responses of the authority regarding the job performance of the SAAOs.

4.2.1 Rank orders of the items of the job performance of the SAAOs

The ranking was done to determine the item-wise extent of the job performance of the SAAOs. The average of the Self Performance Index (SPI), Authority's Evaluated Performance Index (AEPI), and Farmers' Evaluated Performance Index (FEPI) were considered for determining the Overall Performance Index (OPI). The ranking distribution of the items of the job performance of SAAOs is presented in Table 4.8.

Table 4.8 Rank orders of items of the job performance of the SAAOs

Items	OP score			OPI	RO
	SPI	AEPI	FEPI		
Assist farmers through mobile phone conversations	195	198	194.0	195.66	1
Routine field visit	203	200	180.5	194.50	2
Timely suggestions provided about crop production (in all steps, such as irrigation, seedling, drainage, disease control, pest control, IPM, etc.)	186	220	172.0	192.66	3
Timely organization, management, and participation in farmers' meeting	188	200	167.0	185.00	4
Regular diary maintenance	191	191	158.0	180.00	5
Proper technical support to the farmers in moments of crisis	181	210	133.0	174.66	6
Conduction of need-based training program for the farmers	166	193	159.5	172.83	7
Timely organization and management of extension teaching aids and methods (like- farmers' rally, field day, distribution of leaflets, booklets, posters, and demonstration, etc.)	181	206	130.0	172.33	8
Ability to identify the problems and needs of the farmers and provide them solutions	184	189	141.0	171.33	9
Provide advanced notice in case of unavailability in the block	169	180	106.5	151.83	10

SPI= Self Performance Index, AEPI = Authority Evaluated Performance Index, FEPI = Farmer Evaluated Performance Index, OP = Overall Performance, OPI = Overall Performance Index, RO = Rank Order

From the results set in Table 4.8, it could be pointed out that the Overall Performance Indices (OPIs) of the 10 selected items of job performance ranged from 151.83 to 195.66 against the possible range of 0 to 284. The top-ranked item of the job performance was "assist farmers

through mobile phone conversations” (OPI 195.66). As the SAAOs needed to serve a large number (about 1200) of farm families (DAE, 1999) in their respective blocks, sometimes it was quite hard for the SAAOs to serve all the farmers physically. That might drive the SAAOs to assist farmers through conversations over phone sets. In an era of the fourth industrial revolution, the digitalization of communication mediums is a convenient option for employees. It is an easier option to reach a wide range of beneficiaries in a short time more efficiently. In addition, during the arrival of an emergency crisis or any climatic disaster, the SAAOs might use mobile phone sets to communicate with fellow farmers to solve their problem(s) instantly.

The second-ranked item of the job performance was “routine field visit” (OPI = 194.5). SAAOs were the front-line extension worker and field-level professional leaders in the farming communities. Agricultural endeavors require frequent observation of field situations to assess the necessities and policies to be undertaken. The SAAOs are the closest helping medium to the farmers, so they needed to maintain regular field visits to farmers’ fields. It facilitates the timely identification of problems and the generation of solutions. Thus, that item might have ranked in the second position.

The third-ranked item of the job performance was “timely suggestions provided about crop production (in all steps, such as irrigation, seedling, drainage, disease control, pest control, IPM, etc.)” (OPI = 192.66). Crop emergencies arise from time to time in the field and those require timely solutions. The SAAOs follow the guideline of the DAE directly and suggest the farmers to solve their problems at the field level. Several operations determine a crop’s performance, including seeding to harvesting. Adequate seeding rates, spacing, and placement are crucial for plant development. In addition to these, Information about prices and markets, availability of credit, and inputs are also essential. The SAAOs provided advice and information to assist farmers in making decisions and generally enable them to take action. The technical advice will probably apply more directly to the family farms’ production activities and the action needed to improve or sustain their production activities.

The least ranked three items were “provides advanced notice in case of unavailability in the block” (OPI = 151.83), “ability to identify the problems and needs of the farmers and provide them with solutions” (OPI = 171.33), and “timely organization and management of extension teaching aids and methods (like- farmers’ rally, field day, distribution of leaflets, booklets, posters, and demonstration, etc.)” (OPI = 172.33), in that order.

4.3 Effect of Work Design on the Job Performance of the SAAOs

The work design refers to the way tasks, responsibilities, and activities are organized within a job. The design of work can significantly affect job performance. To determine the effects of the work design on job performance two strategies were used: (i) measures of association: contingency table for determining the association between work design categories and job performance categories, and (ii) linear fitted line in the scattered plot of the work design vs. the job performance scores.

4.3.1 Measures of association

Any measure of association quantifies the relationship between the exposure and the outcome. This is necessary in ascertaining causes and effects, and testing the hypotheses about the causal relationships, which provide the basic picture of interrelation between two or more variables, and also can help to find out the interaction between them. In Table 4.9, the distribution of categories of the work design has been set in the rows while the job performance categories in the columns.

Table 4.9 Contingency table of work design vs. job performance categories

Work design categories	Job performance categories			Total
	Low job performance (30-60)	Moderate job performance (61-90)	High job performance (91-120)	
Poor work design (1-41)	8 (11.6)	1 (1.4)	1 (1.4)	10 (14.5)
Good work design (42-82)	14 (20.3)	16 (23.2)	5 (7.2)	35 (50.7)
Excellent work design (above 82)	0 (0.0)	13 (18.8)	11 (15.9)	24 (34.8)
Total	22 (31.9)	30 (43.5)	17 (24.6)	69 (100.0)
Pearson Chi-square = 25.65**; Cramer's V = 0.43**				

The values in the cells indicate the counts, and within the parenthesis indicates the respective percentage of the counts; ** = significant at the 1% level of significance.

The results of Table 4.9 make it clear that the highest percentage (23.2) of the respondents had moderate job performance having good work design, while no respondents under excellent work design had low job performance. The respondents having the excellent work design also had high job performance. In contrast, the respondents with the poor work design had the low job performance. These findings clearly indicate that the work design had a positive effect on the job performance of the respondents. The Chi-square test also signifies this difference, whereas the Cramer's V-validate this significant positive association between the work design and the job performance of the respondents.

4.3.2 Linear fitted line in the scattered plot

Any scatter diagram is an extremely simple statistical tool used to identify the relationship between two variables. It is often combined with the simple linear regression line to fit a model between the two variables. The scattered plotting of the work design and the job performance along with the linear fitted line is presented in Figure 4.1.



Figure 4.1 Linear fitted line in the scattered plot of the work design vs. the job performance scores

The fitted line indicated the linear positive association, further validating the findings of the positive association between the work design and the job performance. The R^2 value of the fitted line also indicates the work design explain 94.95% of the variation in the job performance of the respondents. Thus, it can be said that the work design had the positive significant effect on job performance of the respondents. In other words, the work design played a crucial role in determining the job performance. A well-designed job can provide employees with clear expectations, clear roles and responsibilities, the necessary resources and support, the opportunity to use their skills and abilities, autonomy, meaningful tasks, and opportunities for skill utilization and personal growth.

Conversely, a poorly designed job with monotonous tasks, lack of control, and insufficient support can ultimately result in low morale, decreased job satisfaction, demotivation, burnout, and subpar performance. Therefore, any effective work design is crucial in optimizing the job performance and should consider the strengths and interests of employees and organizational goals. Overall, the way work is designed can greatly impact the job performance in any organization.

4.4 Selected Characteristics of the SAAOs

There were various characteristics of the SAAOs that might influence their job performance. In the present study, 13 characteristics of the SAAOs were selected, which included their age, additional education, family size, annual family income, service tenure, job facilities, professional training need, managerial orientation, psychological strain, affective commitment, self-efficacy, job satisfaction, and work design. The selected characteristics of the SAAOs were mostly related to the job performance under their existing work design, but those varied among the SAAOs. Though the variable ‘work design’ is very crucial for job performance, the salient features of this variable have previously been discussed in section 4.1. To avoid repetition, it has been excluded in this section. The rest of the 12 characteristics are discussed in this section and their salient features are also presented in Table 4.10.

Table 4.10 Salient features of the selected characteristics of the SAAOs (*n* = 71)

Characteristics	Scoring method	Range		Mean	SD
		Possible score	Observed score		
Age	No. of years	-	27-58	41.83	10.6
Additional education	Years of schooling	13-18	13-17	14.01	1.43
Family size	No. of members	-	1-10	4.66	1.47
Annual family income	(‘000’ BDT.)	-	211.68-996.32	446.37	165.29
Service tenure	No. of years	-	5-29	18.92	7.32
Job facilities	Score	0-20	2-19	8.62	4.19
Professional training need	Score	0-30	5-29	18.92	7.32
Managerial orientation	Score	10-40	15-40	30	7.48
Psychological strain	Score	0-18	2-18	12.24	4.21
Affective commitment	Score	0-15	3-15	10.41	3.67
Self-efficacy	Score	10-40	12-40	25.08	7.73
Job satisfaction	Score	10-40	11-39	24.49	9.04

4.4.1 Age

The age of the respondents ranged from 27 to 58 years with the mean of 41.83 years and the standard deviation of 10.6 (Table 4.10). Based on their ages, the SAAOs were classified into three categories: young (18-35), middle-aged (36-50), and old (>50) (Table 4.11).

Table 4.11 Distribution of the SAAOs according to their age

Categories (age)	Frequency	Percentage
Young (18-35)	27	38
Middle-aged (36-50)	20	28.2
Old (> 50)	24	33.8
Total	71	100.0

The results of Table 4.11 revealed that the highest proportion (38%) of the SAAOs belonged to the young age category. Although a greater proportion (71.8%) of the SAAOs belonged to the young to middle-aged categories, a fairly good proportion also belonged to the old category. After 50 years of independence of Bangladesh, the SAAOs recruited since the period of liberation, are now retiring, and the percentage of the young is increasing due to further appointments and the creation of new posts. The findings are supported by Lunge et al. (2011) and Bosco (2000). But some researchers like Kowsari (2014); Hoque (2011); Raihan (2011); Sarker (2007), and Salim (2006) found a high percentage of middle-aged respondents while Uddin (2010) found high percentages of the old aged respondents.

4.4.2 Additional education

The additional education score of the respondents ranged from 13 to 17 with the mean of 14.01 and the standard deviation of 1.43 (Table 4.10). On the basis of their level of education other than an agricultural diploma, the SAAOs were classified into three categories viz, ‘SSC and Diploma (13)’, ‘HSC and Diploma (15)’, and ‘Graduate (17)’ (Table 4.12).

Table 4.12 Distribution of the SAAOs according to their additional education

Categories (education level)	Frequency	Percentage
SSC and Diploma (13)	44	62
HSC and Diploma (15)	18	25.4
Graduate (17)	9	12.7
Total	71	100.0

The findings in Table 4.12 reveal that the greatest proportion (62%) of the SAAOs had an education of SSC and Diploma level. It is notable from the findings that, very few numbers of them tended to pursue higher levels of education. Generally, most of them completed the diploma degree after passing the SSC. It takes less time and they can qualify for the job. Due to this, the percentage of educational qualifications of the diploma degrees including SSC was higher. Lunge et al. (2011) and Uddin (2010) also found an almost similar finding in their respective studies.

Education helps to expand mental horizons by helping an individual to develop a favorable attitude, correct perception, and knowledge about production technology, crop management, postharvest practices, etc. Comparatively an educated person is relatively more responsive to adapting and disseminating technologies and new innovations. Thus, pursuing a higher level of education might help the SAAOs justify their job roles and boost performance.

4.4.3 Family size

The family size of the respondents ranged from 1 to 10 members, with the mean of 4.66 and the standard deviation of 1.47 (Table 4.10). On the basis of their family size, the respondents were classified into three categories as ‘small (up to 4)’, ‘medium (5 to 6)’ and ‘large (above 6)’ (Table 4.13).

Table 4.13 Distribution of the SAAOs according to their family size

Categories (family)	Frequency	Percentage
Small (up to 4)	39	54.9
Medium (5-6)	26	36.6
Large (above 6)	6	8.5
Total	71	100.0

The results of Table 4.13 reveal that the majority of the respondents (54.9%) had small-sized family followed by 36.6% having medium and only 8.5% having large-sized families. Most of the SAAOs were found to have small to medium-sized families. The findings are in accordance with those of Sultana (2017), Parganiha (2016), Bose et al. (2014), Mahmood et al. (2013), Mondol (2009), and Yirga (2007). The findings indicate that small-sized families are increasing with time and the average family size of the SAAOs is quite near to the national average of 4.06 in Bangladesh (HIES, 2016).

4.4.4 Annual family income

The annual family income of the SAAOs ranged from BDT 2,11,680 to 9,96,320, with the mean of 446.37 BDT and the standard deviation of 165.29 (Table 4.10). Based on their annual family income, the respondents were classified into three categories i.e., ‘low (up to BDT 2,819,99)’, ‘medium (BDT 2,82,000 - 6,12,000)’, and ‘high (above BDT 6,12,000)’ income. The distribution of the respondents according to their annual family income has been shown in Table 4.14.

Table 4.14 Distribution of the SAAOs according to their annual family income

Categories (income level)	Frequency	Percentage
Low (Below 2,82)	11	15.5
Medium (2,82-6,12)	48	67.6
High (above 6,12)	12	16.9
Total	71	100.0

It is visualized from the results presented in Table 4.14 that the highest proportion of the SAAOs (67.6%) was in the medium-income category, while 16.9% and 15.5% were in the high and low-income categories, respectively. The findings indicate that the majority of the respondents (84.5%) were in the medium to high-income categories. This finding is supported by those of Lunge et al. (2011).

4.4.5 Service tenure

The number of years of service (service tenure) of the SAAOs ranged from 5 to 29. The mean was 18.92 years with the standard deviation of 7.32 (Table 4.10). The respondents were classified into three categories: ‘one decade’, ‘two decades’, and ‘above two decades’ of services. The distributions of the respondents according to their service tenures have been shown in Table 4.15.

Table 4.15 Distribution of the SAAOs according to the service tenure

Categories (tenure length)	Frequency	Percentage
One decade	27	38.0
Two decades	19	26.8
Above two decades	25	35.2
Total	71	100.0

The information furnished in Table 4.15 indicates that the highest proportion (38%) of the respondents had one decade of service while 35.2% of them were above two decades and 26.8% had two decades of service. Most of the SAAOs were young to middle-aged and so, the findings are in the line with it. Similar results were also experienced by Bose et al. (2014) and Lunge et al. (2011).

4.4.6 Job facilities

The scores of job facilities of the SAAOs in their surveyed work design ranged from 2 to 19. The mean was 8.62 and the standard deviation was 4.19 (Table 4.10). Based on their access to facilities, the respondents were classified into three categories as ‘low (0-10)’, ‘medium (11 to 20)’, and ‘high (21-30)’, and the distribution is presented in Table 4.16.

The message furnished in Table 4.16 that the lion portion (90.2%) of the respondents had low to medium facilities in their workplaces. Similar findings were claimed by Bose et al. (2014), Raihan (2011), and Salim (2006) too. It is the general scenario in Bangladesh where the

employees have to work long hours with low pay to support themselves and their families. Not only was the pay low, but they also worked in cramped and challenging conditions without any financial protection. Unfortunately, without enhanced job facilities, it is difficult to expect the performance of the SAAOs in their respective fields to excel as could be done.

Table 4.16 Distribution of the SAAOs according to their job facilities

Categories (level of facilities)	Frequency	Percentage
Low (0-10)	33	46.4
Medium (11-20)	31	43.7
High (21-30)	7	9.9
Total	71	100.0

4.4.7 Professional training need

The scores for the needs of professional training of the SAAOs ranged from 5 to 29 with the mean of 18.92 with the standard deviation of 7.32 (Table 4.10). On the basis of the scores, the respondents were classified into three types: ‘low (0-10)’, ‘medium (11 to 20)’, and ‘high (21-30)’ and their distribution is presented in Table 4.17.

Table 4.17 Distribution of the SAAOs according to their needs of professional training

Categories (extent of need)	Frequency	Percentage
Low (0-10)	12	16.9
Medium (11-20)	33	46.5
High (21-30)	26	36.6
Total	71	100.0

It is clear from the findings presented in Table 4.17 that the majority of the SAAOs (83.1 percent) had the medium to high need for professional training. Training and development programs provide a host of benefits. Those enhance employees’ performance, boost employees’ productivity, reduce employees’ turnover, and improve organizational culture. According to Ahmad (2002), due to the lack of extension skills, the SAAOs were not able to provide satisfactory extension services to the farmers. As a result, professional training is essential for the SAAOs so that they can provide training to the farmers to make them more skilled in agricultural production practices in every sector. Thus, improving the competency as well as the capacity of the SAAOs, training can play a major role. Department of Agricultural Extension (DAE) can play an active role in this regard.

4.4.8 Managerial orientation

The score of managerial orientation by the SAAOs ranged from 15 to 40 with the mean of 30 having the standard deviation of 7.48 (Table 4.10). On the basis of the possible score, the respondents were divided into three categories as ‘low (10-20)’, ‘medium (21 to 30)’, and ‘high (31-40)’, and the distribution is presented in Table 4.18.

Table 4.18 Distribution of the SAAOs according to their managerial orientations

Categories (extension of orientation)	Frequency	Percentage
Low (10-20)	12	16.9
Medium (21-30)	27	38.0
High (31-40)	32	45.1
Total	71	100.0

From the results furnished in Table 4.18, it becomes lucid that nearly half of the SAAOs (45.1%) had high managerial orientations. In addition, more than three-fourths (83.1%) of the SAAOs belonged to the medium to high managerial orientation category. As the message conveyors of the agricultural sector, SAAOs’ high orientation in management is a very good sign. On the planning, production, and marketing-related aspects, SAAOs’ well efficiency might ease their work and enhance their capacity to assist farmers at the field level, from planning to marketing the farm produces. This, in turn, has a positive and enhancing effect on their overall job performance.

4.4.9 Psychological strain

The extent of scores of the psychological strain of the respondents ranged from 2 to 18 against the possible range of 0 to 18, with the mean of 12.24 and the standard deviation of 4.21 (Table 4.10). On the basis of the possible score, the respondents were classified into three categories i.e., ‘low (0-6)’, ‘moderate (7-12)’, and ‘high (13-18)’. The distributions of the respondents according to their extents of psychological strains have been placed in Table 4.19.

Table 4.19 Distribution of the SAAOs according to their psychological strain

Categories (extent of strain)	Frequency	Percentage
Low (0-6)	6	8.4
Medium (7-12)	33	46.5
High (13-18)	32	45.1
Total	71	100.0

From the findings set in Table 4.19, it is distinct that an overwhelming majority (91.6%) of the SAAOs had the medium to high psychological strains. The psychological strains can make the SAAOs more prone to errors, generate poor work performance, create mental health issues, burnout, and conflict in the workplaces (Cummins, 1990). If it goes unaddressed, organizations might pay the prices in higher rates of turnover, disengagement, and absenteeism. Moreover, farmers become most likely to suffer the most, as they wouldn't get adequate assistance from the concerned SAAOs at the field-level.

4.4.10 Affective commitment

The respondents' affective commitment scores ranged from 3 to 15 against the possible range of 0 to 15, with the mean of 10.41 comprising of the standard deviation of 3.67 (Table 4.10). On the basis of the possible score, the respondents were classified into three categories i.e., 'low (0-5)', 'moderate (6-10)', and 'high (11-15)'. The distribution of the respondents according to their affective commitment has been shown in Table 4.20.

Table 4.20 Distribution of the SAAOs according to their affective commitment

Categories (extent of commitment)	Frequency	Percentage
Low (0-5)	10	14.1
Medium (6-10)	18	25.3
High (11-15)	43	60.6
Total	71	100.0

It is evident from the results set in Table 4.20 that the greatest proportion (60.6%) of the SAAOs had the high affective commitment toward their work. However, the majority (86%) of them belonged to the medium to high categories which was positive in the enhancement of their job performance. Again, the organizational commitment theory states that employees who are devoted or loyal to their organization will work harder and smarter, improving their overall job performance. By creating a strong teamwork culture, communicating clear goals and expectations, being transparent and encouraging open communication, maintaining work ethics, fostering a positive work culture, developing trust, encouraging innovation, and providing constructive feedback and not criticism can go a long way in enhancing the SAAOs affective commitment to the organization they serve, i.e., DAE.

4.4.11 Self-efficacy

The self-efficacy scores of the respondents ranged from 12 to 40 having the mean of 25.08 with the standard deviation of 7.73 (Table 4.10). Based on the possible scores, the respondents were graded into three categories as ‘low (10-20)’, ‘medium (21-30)’, and ‘high (31-40)’ and their distribution is presented in Table 4.21.

Table 4.21 Distribution of the SAAOs according to their self-efficacy

Categories (extent of self-efficacy)	Frequency	Percentage
Low (10-20)	21	29.6
Medium (21-30)	32	45.1
High (31-40)	18	25.3
Total	71	100.0

From the results presented in Table 4.21, it becomes clear that the greatest proportion (45.1%) of the respondents had the medium self-efficacy. The distribution of the SAAOs in the rest two categories was fairly similar. A strong sense of self-efficacy improves people’s achievements and personal welfare; people having high confidence in their capabilities advance to perform difficult tasks and perceive them as challenges to be accomplished perfectly rather than as threats to be avoided (Bandura, 2001). The SAAOs with the high self-efficacy will generally work hard to learn how to perform new tasks as they will be confident that their efforts will be successful. If initiatives are taken, they will have the resilience to stress. Moreover, it can help them change their perspective on the stressful issues in their workplace in the future.

4.4.12 Job satisfaction

The respondents’ job satisfaction scores ranged from 11 to 39 bearing the mean of 24.49 and the standard deviation of 9.04 (Table 4.10). On the basis of the possible scores, the respondents were divided into three classes: ‘low (10-20)’, ‘medium (21 to 30)’, and ‘high (31-40)’, and the distribution of the SAAOs is given in Table 4.22.

Table 4.22 Distribution of the SAAOs according to their job satisfaction

Categories (extent of satisfaction)	Frequency	Percentage
Low (10-20)	28	39.4
Medium (21-30)	18	25.4
High (31-40)	25	35.2
Total	71	100.0

From the results presented in Table 4.22, it becomes clear that the respondents were distributed almost closely in the categories, though the highest proportion (39.4%) of them had the low job satisfaction while 35.2% of them had the high, and the rest 25.4% had the medium job satisfaction. It was found that, if employees were happy and had high job satisfaction, they were more likely to work well and stay longer with the organization. So, when the SAAOs feel satisfied with their job, they will be motivated to do greater effort into their roles. It will, in turn, increase the overall performance of the organization. Furthermore, as the last receiver, farmers will benefit from this productivity.

4.5 Influence of the Selected Characteristics of the SAAOs on their Job Performance

Four steps were followed to determine the influences of the selected characteristics of the SAAOs on their job performance: first, the correlation analysis; second, the multiple linear regression; third, the stepwise multiple regression; and finally, the path analysis. The steps are given in the following sub-sections:

4.5.1 Correlation between the selected characteristics of the SAAOs and their job performance

The correlation coefficient (r) was estimated to test the null hypothesis regarding the relationship between the two concerning issues. The computed values of the correlation coefficient (r) were compared against the relevant table values. Both the Pearson's coefficient of correlation and Spearman's rank coefficient of correlation between the selected characteristics of the SAAOs and their job performance have been presented in Table 4.23. However, the inter-relationships among the different variables have also been computed using Pearson's Product-Moment Coefficient of Correlation and Spearman Rank Correlation Coefficient, and are presented in Appendixes B and C, respectively.

From the results presented in Table 4.23, it will be evident that the six out of the 13 characteristics of the SAAOs, viz., additional education (X_2), job facilities (X_6), managerial orientation (X_8), self-efficacy (X_{11}), job satisfaction (X_{12}), and work design (X_{13}) had significant positive relationships with the job performance of the SAAOs at the 1% level of significance. The other seven variables had no significant relationship with the SAAOs' job performance even at the 5 percent significance level.

Table 4.23 Relationships between the selected characteristics of the SAAOs and their job performance

Focused issue	Selected characteristics	Pearson Correlation Coefficient (r) with 69 d.f.	Spearman's rank correlation coefficient (ρ) with 69 d.f.	Tabulated value of 'r' at	
				0.05 level	0.01 level
Job performance	Age (X_1)	0.179	0.222	±0.234	±0.304
	Additional education (X_2)	0.548**	0.516**		
	Family size (X_3)	0.078	0.074		
	Annual family income (X_4)	0.083	0.147		
	Service tenure (X_5)	0.168	0.200		
	Job facilities (X_6)	0.525**	0.486**		
	Professional training need (X_7)	-0.157	-0.136		
	Managerial orientation (X_8)	0.332**	0.339**		
	Psychological strain (X_9)	0.224	0.231		
	Affective commitment (X_{10})	0.163	0.216		
	Self-efficacy (X_{11})	0.339**	0.325**		
	Job satisfaction (X_{12})	0.648**	0.651**		
	Work design (X_{13})	0.719**	0.695**		

** Correlation is significant at the 0.01 level.

It is very clear from the information presented in Table 4.23 that similar types of results are found from both Pearson Correlation and Spearman Rank Correlation analysis. The level of education might have influenced the horizon of the outlook of the SAAOs. Thus, it might be positively related to their job performance. So, it could be concluded that the level of additional education of the SAAOs might influence their job performance. The job facilities are the most critical factor for the employees to perform. The facilities of a workplace environment might directly influence the employees' productivity, performance, health and safety, comfort, concentration, job satisfaction, and morale, and ultimately all of these might enhance their job performance. Managerial orientation is the process of bringing employees up to speed on organizational policies, job roles and responsibilities, and other organizational attributes and concepts that will help them transition efficiently into the position. Thus, the SAAOs with a high level of managerial orientation for the DAE can improve their services to DAE and the farmers. Self-efficacy indicates how long the SAAOs will persist when engaging with challenging tasks. Employees with high self-efficacy will persist longer in the face of difficult tasks as they are more confident that they will learn and successfully execute the task and all of these will finally improve their job performance. Thus, the SAAOs with high self-efficacy might have high job performance. Again, the SAAOs feeling happy and

content in their roles are much more likely to approach the tasks that they need to carry out with enthusiasm and dedication. An employee with a high level of job satisfaction holds a positive attitude toward his/her job. On the contrary, an employee dissatisfied with his/her job holds a negative attitude about the job. This might explain the positive relationship between the job satisfaction and the job performance of the SAAOs. Work designing is the process of assigning tasks to a particular job by equally considering the interdependency of those tasks with the other jobs. So, work design practices can influence work motivation and the performance of employees by increasing work efficiency through work specialization. This might also explain the positive correlation between the work design and the job performance of the SAAOs.

4.5.2 Multiple linear regression for the contribution of the selected characteristics of the SAAOs on their job performance

As per the results presented in Table 4.23, the correlation analysis only depicts the direction the of relationships of variables but cannot highlight their influences (Sarmin & Hasan, 2019). So, the multiple regression analysis was run to determine the influence of different explanatory variables on job performance of the SAAOs. Out of the 13 independent variables, six variables viz., additional education (X_2), job facilities (X_6), managerial orientation (X_8), self-efficacy (X_{11}), job satisfaction (X_{12}), and work design (X_{13}) were included in the analysis of the regression due to their significant values in the correlation analysis.

Table 4.24 represents the overall summary of the model of the multiple linear regression analysis. It depicts that, the multiple correlation coefficients between all the predictor variables and job performance was 0.794. Moreover, the coefficient of determination (R^2) indicates that the total of 63.1% of the variance in job performance could be explained by all the independent variables included in the study. However, the modified version of R^2 (adjusted R^2) which calculates the R^2 using only the significant independent variables pointed out that the 59.6% variance in the dependent variable resulted from the significant independent variables. In other words, the rest 40.4% of the total variations in the job performance of the SAAOs has not been explained in the current study.

Table 4.24 Model summary of the multiple regression

Multiple R	R^2	Adjusted R^2	Std. Error of the Estimate	F	<i>d. f.</i>
0.794	0.631	0.596	12.099	18.244***	6

Significant: *** $p < 0.005$

Furthermore, the value of F -test was 18.244 which was significant at the $p < 0.005$, which implies that, the multiple regression model provides a better fit to the data than a model that contains no independent variables. The combination of the independent variables as predictors significantly contributes to the SAAOs' job performance. Thus, this model is fit to predict the contribution of the concerned independent variables.

The different independent variables had their own units of measurement which did not permit the comparison of the unstandardized regression coefficient values. So, the standardized regression coefficient values were also computed purposively to avoid the problems of different units of measurement and the results are presented in Table 4.25.

Table 4.25 Contributing variables to explain the job performance of the SAAOs ($n = 71$)

Variables entered	Unstandardized coefficient (B)	Standardized coefficient (β)	% contribution	t-value
Constant	1.219			0.079
Additional education (X_2)	3.051	0.229	63.1	2.489*
Job facilities (X_6)	0.959	0.211		2.375*
Managerial orientation (X_8)	-0.065	-0.025		-0.290
Self-efficacy (X_{11})	0.339	-0.171		-1.757
Job satisfaction (X_{12})	-0.421	0.244		2.141*
Work design (X_{13})	0.514	0.421		2.844**

** = Significant at 1% level of significance; * = Significant at 5% level of significance; R^2 =63.1 percent; Adjusted R^2 =59.6 percent

It becomes very clear from the information presented in Table 4.25 that the observed t -value for regression coefficient was significant for four independent variables, namely; additional education (X_2), job facilities (X_6), job satisfaction (X_{12}), and work design (X_{13}). As the units of measurement was different, the comparison among the contributions of the significant variables on the job performance considering the unstandardized coefficient values is not possible. But it can be concluded their unit contribution to the unit change of the job performance followed the unstandardized coefficients. In contrast, the standardized coefficients indicate a change of β standard deviations of Y as a result of a change of one standard deviation in X . For comparison of the contribution of the significant variables, the standardized coefficients needed to be considered and the results of Table 4.25 indicate the highest contributing factor was the work design followed by the job satisfaction, additional education and job facilities, respectively. The contribution of the work design is near about twice compared to each of the other three significant variables showing its sole importance for improving the job performance of the SAAOs.

4.5.3 Stepwise multiple regression for contribution of the selected characteristics of the SAAOs on their job performance

The four significant variables of the multiple regression model were included in the stepwise regression analyses and their results are presented in Table 4.26.

Table 4.26 Summary of step-wise multiple regression analysis showing contributing variables to job performance ($n = 71$)

Job Performance (Y)						
Model	Independent variables (X)	Unstandardized coefficient (B)	Standardized coefficient (β)	Adjusted R^2	R^2 change	t-value
Constant		-1.878				-0.124
Constant+ X_{13}	Work design (X_{13})	0.246	0.305	0.511	51.8	2.291*
Constant+ $X_{13}+X_6$	Job facilities (X_6)	0.960	0.211	0.540	3.5	2.374*
Constant+ $X_{13}+X_6+X_2$	Additional education (X_2)	2.787	0.209	0.564	3.0	2.270*
Constant+ $X_{13}+X_6+X_2+X_{12}$	Job satisfaction (X_{12})	0.544	0.258	0.589	3.0	2.248*

* = Significant at the 1% level of significance; *** = Significant at the 0.1% level of significance

It can be indicated from the results of Table 4.26 that among the four contributing variables, the work design (X_{13}) had the highest contribution (51.8%) in predicting the SAAOs' job performance. The rest 3 variables, viz., job facilities (X_6), additional education (X_2), and job satisfaction (X_{12}) had more or less similar amounts of contribution in predicting the dependent variable.

Thus, the regression equation for the job performance of the SAAOs can be obtained as:

$$y = -1.878 + 0.305X_{13} + 0.211X_6 + 0.209X_2 + 0.258X_{12}$$

Here, Constant = -1.878

X_{13} = Work design

X_6 = Job facilities

X_2 = Additional education

X_{12} = Job satisfaction, and

y = Job performance

So, from the results presented in Table 4.26, it can be indicated that the whole model explained about 58.9% of the total variation in the job performance of the SAAOs. But since the standardized regression coefficients (Beta weight) of the four variables formed the equation and were significant, it might be assumed that whatever contribution was there, it was due to these four variables. On the basis of the step-wise regression analysis, contributions of these significant four independent variables on the job performance of the SAAOs are presented here in order of their importance:

Work design (X_{13}): Both correlation and regression analyses confirmed that there was a significant positive contribution of the work design to the SAAOs' job performance. Similar results were also argued by Chiekezie et al. (2015), Ali & Zia-ur-Rehman (2014), Aroosiya & Ali (2014), Chahardoli et al. (2014), Shantz et al. (2013), Al-Ahmadi (2009), Aswathappa (2006), Perry et al. (2006), Campion et al. (2005), and Bhuiyan et al. (2003) too. In this study, it solely contributed around 51.8% to SAAOs' job performance which is very noteworthy. The work design generally includes job demands, job control, perceived organizational and perceived colleagues' support as the vital components. Nevertheless, certain jobs and goal setting can enhance the level of performance and increase not merely the satisfaction but the quality of performance as well (Garg & Rastogi, 2005). As many professionals in human resources have discovered that there is a strong impact of work design on the productivity and motivation as well as job satisfaction of employees in an organization. It is generally perceived that both the employees and the employer do not consider the work design and the concept is not implemented in Bangladeshi organizations. Thus, it is pertinent to look for alternative strategies and approaches to enrich the work design which could include job enrichment, job engineering, quality of work life, socio-technical designs, the social information processing approach (SIPA), and the job characteristics approach (Garg & Rastogi, 2005) of organization for their overall betterment. It is also observed from daily life that people are keen to learn and grow, they are asking for freedom in work-related decisions, trying to polish their skills with training and development courses and exposure. Thus, for the SAAOs to flourish in their workplace, it is deemed necessary to formulate a concrete, well-organized, and efficient work design to achieve excellence in their overall performance and boost-up the vital sector of Bangladesh's economy, the agriculture.

Job facilities (X_6): It became transparent from the correlation analyses and the regression that there was a significant positive contribution of the job facilities to the SAAOs' job performance. This result is in line with the findings of Afifah et al. (2022), Wahet et al. (2020), Pratiwi et al. (2019), Bose et al. (2014), Raihan (2011), Salim (2006), and Rahman (1990) as well. It contributed around 3.5% to predict the SAAOs' job performance. Adequate job facilities with suitable conditions that are well-maintained, help smooth the work process in any organization. Job facilities provided by offices, such as machinery and equipment, infrastructure, work equipment, land, and buildings strongly support employees in their work as these facilities can help employees make it easier to complete their work optimally. Thus, it is beyond any argument that, organizations should provide pleasant facilities for their employees. So, if the office can provide these facilities to its employees, the office can increase the enthusiasm for the employees' work. Finally, their work can also be improved up to a considerable extent. Hence, if it can be ensured for the SAAOs' workplace too, they will

feel comfortable in their work and can generate morale and excel in their performance to get the results expected by the DAE of Bangladesh for the flourishing of her paramount sector of the national economy, the agriculture.

Additional education (X_2): It is clear from the analyses of both the correlation and the regression that additional education was significantly positively contributed to SAAOs' job performance. Similar results were also noted by Kasika (2022), OO & VA (2019), Azad (2000), Smith & Aamodt (1997), Islam (1997), Rahman (1990), and Karim (1990). It contributed around 3% in explaining the job performance of the SAAOs. The positive outcomes of education (e.g., greater cognitive ability, greater job knowledge, and greater achievement motivation) are likely to accelerate performance in jobs with high complexity. The level of their education is expected to determine the SAAOs' ability to understand and use advanced agricultural technologies. In general, educated workers tend to be more responsive in receiving instructions and doing new tasks and easily adopt new technologies as well, which increases their ability to innovate and improve job performance. However, the main factors considered to limit the positive effects of educational qualifications on the job performance at the workplace include the quality of the work environment, organizational structure, processes, and the assignment of employees in posts (Kasika, 2022).

Job satisfaction (X_{12}): It became evident from the analyses of both the correlation and the regression that there was significant positive contribution of job satisfaction to the SAAOs' job performance. This result is in the track with the results obtained by Sugiarto (2018), Gul et al. (2018), Adigun et al. (2017), Fattah (2017), Siengthai & Pila-Ngarm (2016), Bose et al. (2014), Ahmed et al. (2011), and Raihan (2011). It contributed three percent in explaining the job performance of the SAAOs. In order to get the efficiency at the workplaces, inventive job performance is considered a critical element for organizations. It is previously observed that, when an employee becomes satisfied with the job, he/she is motivated to put greater effort into the performance. Then it tends to increase the overall performance of the organization. In other words, a satisfied employee and his/her effort and commitment are crucial for the success of the organization being served. In order to enhance the SAAOs' job performance, creating situations like an attractive work environment, good personnel policies, benefits provisions, job structure, and compensation might make a big difference. However, factors like clear lines of communication, an adequate rewarding system, and promotional opportunities could also encourage or discourage both positive and negative work outcomes which if not adequately put in place could result in a turnover.

4.5.4 Direct and indirect effects of the selected characteristics of the SAAOs on their job performance

Path coefficients showing the direct and the indirect effects of significant four independent variables of the final model of the step-wise multiple regression analysis on the job performance of the SAAOs have been presented in Table 4.27. The schematic representation of the separation of the direct and the indirect causal effects of the components has also been presented in Figure 4.2.

Table 4.27 Path coefficients showing the direct and the indirect effects of four significant independent variables on the job performance of the SAAOs

Independent variables	Variables through which substantial indirect effects are channeled	Indirect effects	Total indirect effect	Direct effect
Work design (X_{13})	Job facilities (X_6)	0.107	0.414	0.305
	Additional education (X_2)	0.116		
	Job satisfaction (X_{12})	0.192		
Job facilities (X_6)	Additional education (X_2)	0.065	0.314	0.211
	Job satisfaction (X_{12})	0.095		
	Work design (X_{13})	0.154		
Additional education (X_2)	Job satisfaction (X_{12})	0.104	0.338	0.209
	Work design (X_{13})	0.169		
	Job facilities (X_6)	0.065		
Job satisfaction (X_{12})	Work design (X_{13})	0.227	0.390	0.258
	Job facilities (X_6)	0.078		
	Additional education (X_2)	0.085		

It becomes evident from Table 4.27 that among the independent variables, the work design (X_{13}) had the highest direct effect (0.305) in the positive direction on the job performance of the concerned SAAOs followed by the job satisfaction (X_{12}), job facilities (X_6), and additional education (X_2). The variable work design (X_{13}) had the highest total indirect effect (0.414) followed by the job satisfaction (X_{12}), additional education (X_2), and job facilities (X_6) with the total indirect effect of 0.390, 0.338, and 0.314, respectively on the job performance of the SAAOs. The channel effects of the significant variables through other variables on the job performance of SAAOs are briefly discussed here:

Work design (X_{13})

It is clear from the path analysis that the work design (X_{13}) had the highest total indirect effect of 0.414 and the positive direct effect of 0.315 on the job performance of the SAAOs (Table 4.26). The indirect effect of the work design (X_{13}) was channeled positively through the job

satisfaction (X_{12}), additional education (X_2), and job facilities (X_6) as well. So, it may be inferred that if other variables remained constant, the work design (X_{13}) alone was an important determinant of the job performance of the SAAOs.

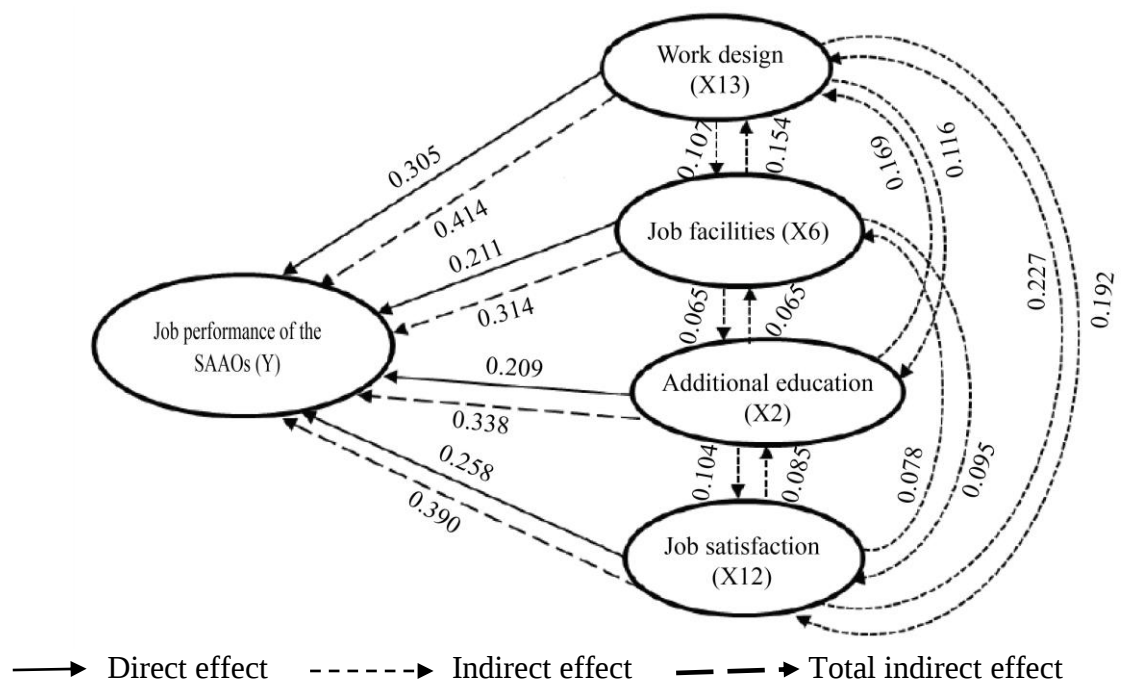


Figure 4.2 Diagrammatic presentation of the direct and the indirect effects of variables on the job performance of the SAAOs (y)

Job satisfaction (X_{12})

From the path analysis, it becomes clear that the job satisfaction (X_{12}) had the second highest total indirect effects of 0.390 and the positive direct effects of 0.258 on the job performance of the SAAOs (Table 4.26). The indirect effect of job satisfaction (X_{12}) was channeled positively through the work design (X_{13}), additional education (X_2), and job facilities (X_6) too. Hence, it may be opined that if other variables remain constant, the job satisfaction (X_{12}) could be a determinant of the job performance of the SAAOs.

Additional education (X_2)

The path further clarified that additional education (X_2) had the 3rd highest total indirect effects of 0.338 and the positive direct effects of 0.209 on the job performance of the SAAOs (Table 4.26). The indirect effect of the additional education (X_2) was channeled positively through the work design (X_{13}), job satisfaction (X_{12}), and job facilities (X_6) as well. Thus, it may be inferred further that if other variables remain constant, the additional education (X_2) could be a determinant of the job performance of the SAAOs.

Job facilities (X_6)

From the path analysis, it becomes furthermore clear that the job facilities (X_6) had the lowest total indirect effects of 0.314 and the positive direct effects of 0.211 on the job performance of the SAAOs (Table 4.26). The indirect effect of the job facilities (X_6) was channeled positively through the work design (X_{13}), job satisfaction (X_{12}), and additional education (X_2). It may further be inferred that if other variables remain constant, the job facilities (X_6) could be a determinant of the job performance of the SAAOs.

4.6 Challenges for Improving the Work Design and the Job Performance

Twenty challenges (10 for the work design and 10 for the job performance) were identified by the SAAOs in relation to their work design and the job performance during the pre-testing of the interview schedule. The rank orders of the challenges faced by the SAAOs in relation to their work design and the job performance are presented in the following sub-sections:

4.6.1 Rank orders of the challenges for improving the work design

The frequency distribution of the SAAOs as per the 10 challenges in relation to the work design and the rank order of the challenges obtained through the Challenges in the Work Design Index (CWDI) has been given in Table 4.28. The challenges in the Work Design Indices (CWDIs) of the SAAOs ranged from 164 to 206 with the possible range of 0 to 213.

Based on the Challenges in the Work Design Indices (CWDIs), the top-ranked challenge to improve the work design was the “need of training for sustainable agriculture” (CWDI = 206). To be sustainable, agriculture must meet the needs of the present and the future generations for its products and services by ensuring profitability, environmental health, and social and economic equity. In addition, training was done at the workplace of the SAAOs on various aspects. But there was no provision of adequate training regarding the modern sustainable technologies. The SAAOs play the most vital role in disseminating information, technologies, and innovations to the farmers. So, it is very important to arrange need-based and timely proper training for the trainers-cum SAAOs themselves on the latest technologies and innovations relating to sustainable agriculture.

Table 4.28 Rank orders of the challenges for improving work design

Issues	Not required	Low	Medium	High	CWDI	RO
Need of training for sustainable agriculture	0	0	7	64	206	1
Giving more focus on crop production to market economy	0	1	19	51	192	2
Enhancement of communication with farmers and dealers	0	3	18	50	189	3
Need of more focus on small and landless farmers	0	2	22	47	187	4
Need of more attention on area-based planning	0	1	26	44	185	5
Authority delegation to solve work-related problems	0	2	29	40	180	6
Need of strict official chain of command	0	6	23	42	178	7
Need of more categorical and fair support to the farmers	1	5	28	37	172	8
Need of more concentration to minimize the social and political pressure	1	7	30	33	166	9
Involvement in the Upazila program planning process	2	4	35	30	164	10

CWDI= Challenges in Work Design Index, RO=Rank Order

The second major challenge for improving the work design is “giving more focus on crop production to market economy” (CWDI = 192). Agricultural crop production to marketing of the products plays an important role in stimulating production and consumption and accelerating the pace of economic development. It is the most important multiplier of agricultural development. From the production-related aspects to the marketing, every step in the way needed to be focused equally to get full returns and revenues. From facilitating agricultural operations, ensuring availability of inputs, eliminating mediators, developing means of smooth transport facility, and publicity of market policies to regular market surveys- all aspects are to be considered and focused on as per the prevailing situations.

“Enhancement of communication with farmers and dealers” (CWDI = 189) was the third most-ranked challenge identified by the SAAOs. In such issues like, discipline, training of employees, motivating the workforce, or implementing new technology or practice-communication is a key factor in any successful farming operation. Communication’s importance must be viewed as a core value in the farming system. The SAAOs are

responsible for providing the knowledge and information enabling farmers to understand and make decisions about a particular innovation. Moreover, they act as the bridge between farmers and dealers. So, the communication between these three parties is needed to be strengthened by any means as the situation demands.

The least-ranked three challenges in relation to the work design of the SAAOs were “need of more categorical and fair support to the farmers” (CWDI = 172), “need of more concentration to minimize the social and political pressure” (CWDI = 166), and “involvement in the Upazilas’ program planning process” (CWDI = 164).

4.6.2 Rank orders of the challenges for improving the job performance

The frequency distribution of the SAAOs according to the 10 challenges in relation to job performance and the rank order of the challenges obtained through the Challenges in Job Performance Index (CJPI) has been shown in Table 4.29. The Challenges in Job Performance Indices (CJPIs) of the SAAOs ranged from 149 to 198 with a possible range of 0 to 213.

Table 4.29 Rank orders of the challenges for improving the job performance of the SAAOs

Issues	Not required	Low	Medium	High	CJPI	RO
Necessity of financial support for extra work	1	1	10	59	198	1
Vehicle support to work in remote areas	0	4	11	56	194	2
Need of training from abroad on updated technologies	0	3	17	51	190	3
Regularly organize awarding facilities for doing good work	1	2	22	46	184	4
Ease of use regarding ICT devices	0	4	24	43	181	5
Crop-wise development of frontline agriculture officer	1	3	24	43	180	6
Need of partial decision-making power in moment of crisis	0	1	33	37	178	7
Availability of necessary funds for organizing training and its materials	0	8	22	41	175	8
Sympathetic support from authority to develop confidence	1	5	27	38	173	9
Support to work jointly with agro-based NGOs	3	11	33	24	149	10

CJPI = Challenges in Job Performance Index; RO = Rank Order

Based on the Challenges in Job Performance Indices (CJPIs), the top-ranked challenge to improve job performance was the “necessity of financial support for extra work” (CJPI=198). Any type of financial stress usually lowers employees’ performance levels. The field-level work usually has no time limit, in the SAAO’s cases, there are no work deadlines. Moreover, in the agricultural sector, emergency situations can occur at any point in time. Moreover, the SAAOs are the keenest on the farmers in the farming system; so, their attention is immediately needed. Thus, to keep them at a working pace and to draw extra benefit from them, it is necessary to appraise them financially as doable for the extra efforts and time they put out of their scheduled work time.

The second major challenge for improving the job performance was “vehicle support to work in remote areas” (CJPI = 194). The effective communication is the most vital component of any emergency response. Many agricultural emergencies occur in remote areas of the country, where the basic transportation system is typically very poor beyond the expectation. Thus, expanding extension services to every corner of the farming community is necessary. So, to make transportation facility easier, necessary vehicle support needs to be provided to the SAAOs by DAE or the ministry of agriculture (MOA). Also, allowances to maintain the expenses could be provided with subsidies as the situation demands and credibility of the MOA.

“Need of training from abroad on updated technologies” (CJPI = 190) was identified by the SAAOs as the third-ranked challenge for improving their job performance. Most of the agricultural sector's technological innovations enter the farms through modern agricultural equipment. Expressed commitments of the equipment manufacturers are to ease farmers’ decision-making processes with the support of agricultural technologies. So, acquaintance with updated technologies from time to time is crucial. In this regard, trainings at home and abroad are of utmost importance for supporting contemporary technologies at the field level. A trained field worker can provide advanced technical assistance to the farmers. Thus, SAAOs, if provided with adequate training from home and abroad, can easily disseminate the technologies to their end beneficiaries.

The least-ranked three challenges to improving the job performance of the SAAOs were: “availability of necessary funds for organizing training and its materials” (CJPI = 175), “sympathetic support from the authority to develop confidence” (CJPI = 173), and “support to work jointly with agro-based NGOs” (CJPI = 149).