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## **JOB SATISFACTION AND RELATED CHARACTERISTICS OF BANGLADESH AGRICULTURAL UNIVERSITY GRADUATES**

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### **ABSTRACT**

This article is intended to focus on the extent of job satisfaction and its relationship with other characteristics of Bangladesh agricultural University (BAU) graduates in Bangladesh labour market. Further, it aims at exploring important characteristics which have influence on job satisfaction- of BAU graduates. The related characteristics include age, place of birth, year of graduation, highest degree, academic excellence, place of posting, professional training, publications, length of service, initial & present salary, satisfaction in working conditions, job preference, employment level, type of employer, employer's status, academic relevance and professional status. Data were collected by interviewing a sample of graduates passing out from Bangladesh Agricultural University, Mymensingh and its affiliated colleges during the academic years from 1971-72 to 1983-84 on the basis of a pretested questionnaire. It was revealed that only 9% of BAU graduates in the labour market were fully satisfied and about 3%, were not at all satisfied with their current jobs. About 88% of sample graduates in the labour market were stated to be partially satisfied. Regression analysis technique was employed to estimate the effects of various related factors on job satisfaction of BAU graduates. Stepwise regression analysis revealed that regression coefficients of 14 independent variables were statistically significant of which 7 independent variables were found to have positive effect on job satisfaction of BAU graduates; these are age, place of birth, professional training facility, professional status, professional image, working facilities, and satisfaction in working conditions. Working facilities alone explained about 13 percent variation in job satisfaction of BAU graduates.

### **I. INTRODUCTION**

Bangladesh Agricultural University (BAU), along with three agricultural colleges and one Institute of Postgraduate Studies in Agriculture (IPSA) have been producing agricultural scientists to promote agricultural extension, planning, banking, teaching, research and administrative activities so as to achieve agro-economic development of the country and to attain self-sufficiency in food. Some of the BAU graduates seeking job in the labour market get employment according to their preference and satisfaction but a good proportion are found to accept such employments which are not upto their satisfaction. These graduates are dissatisfied, either partially or fully, with their jobs for various reasons. It is well agreed that job satisfaction is a major determinant of desired performance of an employee. Optimum utilization of the skill and genius of an employee depends on the minimum level of satisfaction in his job. As agricultural sciences are highly technical in nature and cost of BAU education is much higher in comparison with general/non technical education, optimum utilization of the technical skill of BAU graduates is highly desirable. It should, therefore, be

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ensured that graduates acquiring highly expensive technical degrees in agricultural sciences be properly employed in academically relevant jobs according to their preference and satisfaction. Keeping this in view, this article, as its principal objective, gives light on the job satisfaction of BAU graduates in the labour market and attempts to formulate and test its relationship with other factors included in the study. Methodology applied in this study is discussed in Section 11. Section (II) includes the results obtained and discussions thereon. Conclusions are drawn in the final Section IV.

## II. METHODOLOGY

Data for this study were collected through a sample survey of agricultural graduates passing out during the academic years 1971-72 to 1983-84 (the last batch came out before preparing the sampling frame). The survey was conducted during the period from September 1989 to April 1990.

**Sampling and Sample Returns:** All the graduates passing out from BAU and its affiliated colleges during the reference period together constituted the population of the study and a sampling frame of 5308 obtained from the office of the Controller of Examinations, BAU. The whole population of these 5308 BAU graduates was divided into six strata (according to six Faculties). A 10% random sample was drawn from each stratum. Current addresses of the graduates in the sample were collected from different sources by different methods [Detailed in Aluned (1992)]. The initial size of the sample was 535 of which current addresses of 128 graduates could be collected from different sources and 346 graduates could be interviewed for collection of data. The final sample size was, thus, 346, about 6.52 percent of the whole population.

**Variables and their Measurements:** Some of the variables under study were quantitative and some other were qualitative/categorical in nature. The techniques followed in defining and measuring the variables are as described in Ahmed (1992).

**Presentation and Analysis of Data:** Data were collected through personal interview of the sample graduates on the basis of a pretested questionnaire. SAS; PC package programme was used for tabulation and analysis of data. Data on some variables were obtained in numerical form and were tabulated accordingly. The variables academic score, professional image, employment facilities, working facilities, satisfaction in working conditions and job satisfaction were categorical in nature. Nominal scales were used to assign numerical scores to these variables. Rest of the variables, viz., place of birth, job preference, highest degree, fathers' occupation, employment level, nature of job, type of employer, status of employer, academic relevance and professional status have been represented by dummy variables in the regression analysis.

In order to give an overview of job satisfaction of BAU graduates in the labour market, sample graduates passing from different faculties of BAU have been classified according to the extent of satisfaction in their current jobs.

The fitted multiple linear regression model was

$$Y = \beta_0 + \sum_i \beta_{1i} X_i + \beta_2 B + \beta_3 J + \beta_4 P + \sum_j (\beta_{5j} D_j + \beta_{7j} L_j + \beta_{10j} E_j + \beta_{11j} R_j + \beta_{12j} S_j) + \sum_k \beta_{6k} O_k + \sum_i \beta (\beta_{81} N_1 + \beta_{91} T_1) + U,$$

[i = 1, 2, ..... , 18; j = 1, 2, 3; k = 1, 2, 3, 4; l = 1, 2, ..... , 5]

Where Y represents job satisfaction of BAU graduates, U is the disturbance term having usual assumptions, and the independent variables are as denoted below:

Notation	Variable
X <sub>1</sub>	Age of respondent
X <sub>2</sub>	Year of graduation
X <sub>3</sub>	Academic score
X <sub>4</sub>	Professional training
X <sub>5</sub>	Number of publications
X <sub>6</sub>	Father's educational attainment
X <sub>7</sub>	Father's annual income
X <sub>8</sub>	Mother's educational attainment
X <sub>9</sub>	Educational attainment of spouse
X <sub>10</sub>	Service length
X <sub>11</sub>	Initial annual salary
X <sub>12</sub>	Present annual salary
X <sub>13</sub>	Waiting time for the first job
X <sub>14</sub>	Professional image
X <sub>15</sub>	Employment facilities
X <sub>16</sub>	Working facilities
X <sub>17</sub>	Job satisfaction
X <sub>18</sub>	Satisfaction in working conditions
B	Dummy ; B = 1 if the birth place was in the rural area, 0 otherwise
J	Dummy ; J = 1 if the job was a preferred one 0 otherwise
P	Dummy ; P = 1 if the posting place was in the rural area, 0 otherwise
D <sub>1</sub>	Dummy ; D <sub>1</sub> = 1 if Bachelor degree holder, 0 otherwise
D <sub>2</sub>	Dummy ; D <sub>2</sub> = 1 if Master degree holder, 0 otherwise
D <sub>3</sub>	Dummy ; D <sub>3</sub> = 1 if higher degree holder, 0 otherwise
O <sub>1</sub>	Dummy ; O <sub>1</sub> = 1 if Father's occupation was farming, 0 otherwise
O <sub>2</sub>	Dummy ; O <sub>2</sub> = 1 if Father's occupation was service, otherwise
O <sub>3</sub>	Dummy ; O <sub>3</sub> = 1 if Father's occupation was teaching, 0 otherwise
O <sub>4</sub>	Dummy ; O <sub>4</sub> = 1 if Father's occupation was business 0 otherwise
L <sub>1</sub>	Dummy ; L <sub>1</sub> = 1 if a junior level employment, 0 otherwise
L <sub>2</sub>	Dummy ; L <sub>2</sub> = 1 if a mid-level employment 0 otherwise

L3	Dummy ;	L3 = 1 if a senior level employment, 0 otherwise
N1	Dummy ;	N1 = 1 if the job was teaching and research, 0 otherwise
N2	Dummy ;	N2 = 1 if the job was research &/or development, 0 otherwise
N3	Dummy ;	N3 = 1 if the job was extension 0 otherwise
N4	Dummy ;	N4 = 1 if the job was construction/manufacturing /Production 0 otherwise
N5	Dummy ;	N5 = 1 if the job was administration or alike 0 otherwise
T1	Dummy ;	T1 = 1 if the employer organization was teaching and research 0 otherwise
T2	Dummy ;	T2 = 1 if the employer organization was research and/or development 0 otherwise
T3	Dummy ;	T3 = 1 if the employer organization was extension, 0 otherwise
T4	Dummy ;	T4 = 1 if the employer organization was manufacturing/ construction/Production 0 otherwise
T5	Dummy ;	T5 = 1 if the employer organization was administrative
E1	Dummy ;	E1 = 1 if the employer was a government organization/ department, 0 otherwise
E2	Dummy ;	E2 = 1 if the employer was an autonomous/semi-autonomous body or Institutions of national importance including universities 0 otherwise
E3	Dummy ;	E3 = 1 if the employer was a private organizations/ Institution/department or other organizations not included above, 0 otherwise
R1	Dummy ;	R1 = 1 if the technical education was very little or not relevant with the current job, 0 otherwise
R2	Dummy ;	R2 = 1 if the technical education was partially relevant with the current job 0 otherwise
R3	Dummy ;	R3 = 1 if the technical education was fully relevant with the current job, 0 otherwise
S1	Dummy ;	S1 = 1 if the professional status was low or very low, 0 otherwise
S2	Dummy ;	S2 = 1 if the professional status was moderate, 0 otherwise
S3	Dummy ;	S3 = 1 if the professional status was high or very high, 0 otherwise

The variables X<sub>1</sub>, X<sub>2</sub>, X<sub>5</sub>, X<sub>6</sub>, X<sub>7</sub>, X<sub>8</sub>, X<sub>9</sub>, X<sub>10</sub>, X<sub>11</sub>, X<sub>12</sub> and X<sub>13</sub> were basically quantitative in nature. Although the variables X<sub>3</sub>, X<sub>4</sub>, X<sub>14</sub>, X<sub>15</sub>, X<sub>16</sub>, X<sub>17</sub> and X<sub>18</sub> were basically qualitative in nature, they were assigned numerical scores as described in Ahmed (1992). The remaining variables were of categorical type and dummy variables were used to represent them in the regression model.

### III. RESULTS AND DISCUSSION

An overview of job satisfaction of BAU graduates passing out during the reference period is given in table 1. It is revealed that only 9 percent of agricultural graduates in the sample are fully satisfied with their current jobs while more than 88 percent are found to be partially satisfied and about 3 percent are either very little or not at all satisfied. Inter faculty differences in job satisfaction were found to be statistically insignificant [Ahmed (1992)].

**Table 1. Job Satisfaction (and percentage of fully relevant employment) of BAU Graduates, by Faculty.**

Faculty of Graduation	Extent of Satisfaction			Total	Employed in Fully Relevant Jobs (%)
	Fully Satisfied	Partially Satisfied	Very little or Not Satisfied		
Agriculture	14 (9.09)	138 (89.61)	2 (1.30)	154	73.38
Agri. Economics	0 (0.00)	29 (72.50)	1 (2.50)	40	24.39
Agri. Engineering	2 (6.67)	25 (83.33)	3 (10.00)	30	63.33
Animal Husbandry	6 (13.05)	38 (82.61)	2 (4.35)	46	67.39
Fisheries	4 (12.50)	27 (84.38)	1 (3.13)	32	62.50
Vet. Science	4 (9.30)	37 (86.05)	2 (4.65)	43	79.07
All	30 (8.70)	304 (88.12)	11 (3.19)	345*	65.61

Source: Ahmed (1992).

\* 1 Non respondent.

Notes: 1) Figures within parentheses indicate percentages of row total.

2) Row totals in some cases may slightly differ from 100 due to rounding error.

As job satisfaction depends on many factors, data were collected on 21 socioeconomic academic and employment characteristics of agricultural graduates employed in Bangladesh labour market. Multiple regression technique was employed to estimate the relationship of job satisfaction with these related characteristics.

40 independent variables  $X_1, B, X_2, D_1, D_2, D_3, X_3, X_4, X_5, L_1, L_2, L_3, X_{10}, X_{11}, X_{12}, P, N_1, N_2, N_3, N_4, N_5, T_1, T_2, T_3, T_4, T_5, S_1, S_2, S_3, E_1, E_2, E_3, R_1, R_2, R_3, X_{14}, X_{15}, X_{16}, J$  and  $X_{18}$  were included in a multiple regression model with  $X_{17}$  as the dependent variable. Among these independent variables 25 variables were dummies representing 7 different categories. Since  $(D_1, D_2, D_3), (L_1, L_2, L_3), (N_1, N_2, N_3, N_4, N_5), (T_1, T_2, T_3, T_4, T_5), (S_1, S_2, S_3), (E_1, E_2, E_3)$  and  $(R_1, R_2, R_3)$  formed 7 different linearly related subsets, the OLS method broke down and unique estimates could not be obtained. To avoid this situation, 7 dummy variables  $D_3, L_3, N_4, T_4, S_1, E_3$  and  $R_1$  were dropped and the model was reformulated with the remaining 33 independent variables. Stepwise regression analysis with forward selection procedure using SA/PC Package programme yielded the following results (Details are given in Appendix):

Stepwise regression analysis revealed that 26 independent variables included in the estimated model together explained more than 41 percent of variation in job satisfaction of BAU graduates in the labour market. It was further revealed that  $X_{16}$  alone explained about 13 percent of total variation and 14 significant variables together explained more than 33 percent of total variation. 33 variables in the full model explained 41.72 percent of total variation (Shown in appendix) and elimination of 7 variables from the model caused a loss of 0.58 percent of variation only. 14 variables, having significant influence on the job satisfaction of BAU graduates are  $X_1$ , B,  $X_2$ ,  $X_4$ ,  $T_1$ ,  $T_2$ ,  $T_3$ ,  $T_5$ ,  $E_1$ ,  $S_3$ ,  $S_2$ ,  $X_{14}$ ,  $X_{16}$ , and  $X_{18}$ ; 7 variables B,  $X_4$ ,  $S_2$ ,  $S_3$ ,  $X_{14}$ ,  $X_{16}$  and  $X_{18}$  had significant and positive influence on job satisfaction, remaining 7 variables  $X_1$ ,  $X_2$ ,  $T_1$ ,  $T_2$ ,  $T_3$ ,  $T_5$  and  $E_1$  had significant but negative effect; possibly because employment and other facilities available to the aged persons graduated long ago and employed in various types of jobs, particularly in government departments/organizations might not be upto their satisfaction. On the other hand, those occupying high positions in their jobs, and for that matter having high image and influence, might have been controlling and enjoying training and other facilities; as a result they expressed satisfaction on their jobs. It is also remarkable that graduates having rural background were stated to be more satisfied in their jobs, possibly because their expectation level might be reasonably low in comparison with those having urban background.

**Table 2a. Analysis of Variance: Dependent Variable Job Satisfaction.**

Sources of Variation	D. F.	Sum of Squares	Mean Square	F-value	Prob.
Regression	26	2968.198	114.161	8.55	0.0001
Error	318	4246.555	13.354		
Total	344	7214.754			

Included Variables :  $X_1$ , B,  $X_2$ ,  $D_1$ ,  $D_2$ ,  $X_4$ ,  $X_5$ ,  $X_{10}$ ,  $X_{11}$ ,  $X_{12}$ ,  $N_1$ ,  $N_5$ ,  $T_1$ ,  $T_2$ ,  $T_3$ ,  $T_5$ ,  $E_1$ ,  $E_2$ ,  $R_2$ ,  $R_3$ ,  $S_2$ ,  $S_3$ ,  $X_{14}$ ,  $X_{16}$ , J and  $X_{18}$ .

R-Square 0.4114

**Table 2b. Parameter Estimates of Regression Model : Dependent Variable Job Satisfaction.**

Variables	Parameters	t-Value	Prob.
Intercept	22.886	5.654	0.0001
X <sub>1</sub>	-0.257	-2.225	0.0268
B	0.975	2.156	0.0318
X <sub>2</sub>	-0.361	-3.004	0.0029
D <sub>1</sub>	-1.653	-1.427	0.1546
D <sub>2</sub>	-1.024	-0.934	0.3513
X <sub>4</sub>	0.059	3.062	0.0024
X <sub>5</sub>	0.048	0.785	0.4329
X <sub>10</sub>	-0.158	-1.538	0.1250
X <sub>11</sub>	-0.068	-1.245	0.2146
X <sub>12</sub>	0.001	0.914	0.3661
N <sub>1</sub>	-0.571	-0.744	0.4577
N <sub>5</sub>	-0.877	-1.119	0.2639
T <sub>1</sub>	-4.229	-2.643	0.0086
T <sub>2</sub>	-4.323	-2.960	0.0033
T <sub>3</sub>	-4.807	-3.324	0.0010
T <sub>5</sub>	-4.410	-2.731	0.0067
E <sub>1</sub>	-1.993	-2.032	0.0429
E <sub>2</sub>	-0.810	-0.879	0.3796
R <sub>3</sub>	1.578	1.866	0.0629
R <sub>2</sub>	1.143	1.423	0.1557
S <sub>3</sub>	3.042	3.457	0.0006
S <sub>2</sub>	1.569	2.005	0.0459
X <sub>14</sub>	0.485	4.582	0.0001
X <sub>16</sub>	0.554	4.175	0.0001
J	-0.608	1.236	0.2175
X <sub>18</sub>	0.498	3.689	0.0003

Stepwise regression analysis resulted the following regression equation:

$$Y = 22.816 - 0.257X_1 + 0.975B - 0.361X_2 - 1.0653D_1 - 1.024D_2 + 0.059X_4 + 0.048X_5 - 0.158X_{10} - 0.068X_{11} + 0.001X_{12} - 0.571N_1 - 0.877N_6 - 4.229T_1 - 4.323T_2 - 4.807T_3 - 4.410T_5 - 1.993E_1 - 0.810E_2 + 1.578R_3 + 1.143R_2 + 3.042S_3 + 1.569S_2 + 0.485X_{14} + 0.554X_{16} - 0.608J + 0.498X_{18}$$

(t values and probability levels are shown in table 2b)



#### IV. CONCLUSION

It is revealed from the results and discussion above that job satisfaction of BAU graduates in Bangladesh labour market is positively and significantly influenced by such factors which are really important for proper utilization of their technical skills and ability. These factors are training facilities, professional status, professional image, available working facilities, and working conditions; 'Working facility' was found to have the highest influence. On the other hand, effects of employment levels were far from significance level (Contribution to increase R<sup>2</sup> was too small and stepwise regression procedure considered to exclude them from the model); initial and present salary also were found to have insignificant effect on job satisfaction. These results imply that most of the BAU graduates are sincere to their profession and do not bother much for salary or promotion. They desire appropriate facilities to utilize their knowledge for better contribution towards national development. It is, therefore, strongly felt that national agricultural policy should ensure proper employment opportunities and adequate working facilities for BAU graduates for optimum utilization of their technical skills.

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#### APPENDIX MULTIPLE REGRESSION ANALYSIS

Dependent Variable: X<sub>17</sub> (Job Satisfaction)

Analysis of Variance (Full Model)

Source	DF	Sum of Squares	Mean Square	F Value	Prob.
Model	33	3010.30763	91.22144	6.748	0.0001
Error	311	4204.44599	13.51912		
Total	344	7214.75362			
R-square	0.4172				

Parameter Estimates

Variable	DF	Parameter Estimate	T for HO: Parameter=0	Prob.
INTERCEPT	1	25.483137	4.627	0.0001
X <sub>1</sub>	1	-0.259843	-2.218	0.0273
B	1	0.962877	2.084	0.0379
X <sub>2</sub>	1	-0.352607	-2.647	0.0085
D <sub>1</sub>	1	-2.314766	-1.424	0.1553
D <sub>2</sub>	1	-1.524710	-1.098	0.2732
X <sub>3</sub>	1	-0.045419	-0.464	0.6432
X <sub>4</sub>	1	0.057687	2.890	0.0041
X <sub>5</sub>	1	0.064771	0.990	0.3227
L <sub>1</sub>	1	0.716826	0.658	0.5111
L <sub>2</sub>	1	0.911111	0.930	0.3533
X <sub>10</sub>	1	-0.126393	-1.155	0.2491
X <sub>11</sub>	1	-0.050596	-0.889	0.3744
X <sub>12</sub>	1	0.000695	0.968	0.3337
P	1	-0.509088	-0.498	0.6191
N <sub>1</sub>	1	-3.069553	-1.415	0.1580
N <sub>2</sub>	1	-2.803970	-1.380	0.1685
N <sub>3</sub>	1	-2.514512	-1.164	0.2452
N <sub>5</sub>	1	-3.453736	-1.600	0.1106
T <sub>1</sub>	1	-4.295315	-2.523	0.0121
T <sub>2</sub>	1	-4.471374	-2.906	0.0039
T <sub>3</sub>	1	-4.923671	-3.093	0.0022
T <sub>5</sub>	1	-4.472394	-2.557	0.0110
E <sub>1</sub>	1	-1.975895	-1.970	0.0497
E <sub>2</sub>	1	-0.668317	-0.706	0.4810
R <sub>3</sub>	1	1.466740	1.703	0.0895
R <sub>2</sub>	1	0.958963	1.160	0.2471
S <sub>3</sub>	1	3.154349	3.487	0.0006
S <sub>2</sub>	1	1.721569	2.135	0.0335
X <sub>14</sub>	1	0.494109	4.512	0.0001
X <sub>15</sub>	1	0.053829	0.334	0.7382
X <sub>16</sub>	1	0.527871	3.842	0.0001
J	1	-0.631201	-1.251	0.2120
X <sub>18</sub>	1	0.506590	3.638	0.0003

**Summary of Forward Selection Procedure of Dependent  
Variable X17 = Job Satisfaction**

Step	Variable Entered	Number In	Partial R**2	Model R**2	F	Prob.
1	X <sub>16</sub>	1	0.1292	0.1292	50.8970	0.0001
2	S <sub>3</sub>	2	0.0691	0.1983	29.4761	0.0001
3	X <sub>18</sub>	3	0.0425	0.2408	19.0666	0.0001
4	X <sub>5</sub>	4	0.0332	0.2739	15.5392	0.0001
5	X <sub>4</sub>	5	0.0218	0.2957	10.4717	0.0013
6	E <sub>1</sub>	6	0.0136	0.3093	6.6409	0.0104
7	S <sub>2</sub>	7	0.0072	0.3165	3.5494	0.0604
8	B	8	0.0075	0.3239	3.7138	0.0548
9	N <sub>5</sub>	9	0.0050	0.3289	2.4791	0.1163
10	T <sub>3</sub>	10	0.0053	0.3342	2.6428	0.1050
11	D <sub>1</sub>	11	0.0045	0.3387	2.2603	0.1337
12	D <sub>2</sub>	12	0.0026	0.3413	1.3223	0.2510
13	X <sub>1</sub>	13	0.0031	0.3444	1.5568	0.2130
14	X <sub>14</sub>	14	0.0041	0.3484	2.0609	0.1521
15	X <sub>2</sub>	15	0.0267	0.3752	14.0714	0.0002
16	J	16	0.0030	0.3782	1.5781	0.2099
17	X <sub>10</sub>	17	0.0025	0.3807	1.3462	0.2468
18	X <sub>11</sub>	18	0.0029	0.3836	1.5508	0.2139
19	N <sub>1</sub>	19	0.0023	0.3860	1.2253	0.2691
20	R <sub>3</sub>	20	0.0029	0.3888	1.5192	0.2186
21	R <sub>2</sub>	21	0.0038	0.3926	1.9989	0.1584
22	T <sub>2</sub>	22	0.0018	0.3944	0.9608	0.3277
23	T <sub>1</sub>	23	0.0019	0.3963	1.0306	0.3108
24	T <sub>5</sub>	24	0.0124	0.4088	6.7313	0.0099
25	X <sub>12</sub>	25	0.0012	0.4100	0.6547	0.4191
26	E <sub>2</sub>	26	0.0014	0.4114	0.7743	0.3796