Leadership Characteristics of Scientists in Indian Council of Agricultural Research: Readiness to Take up the Leadership Role

R V Satyanarayana Rao¹, K H Rao², Ananta Sarkar³, Debasmita Mishra⁴ and M M Anwer⁵

The paper describes the challenges faced by leaders in their attempt to prepare their organizations for an effective management. Ninety percent of the respondents have moderate readiness to take up the leadership role. Multinomial logistic regression analysis results indicated that there is no evidence to suggest that respondent's designation, age, gender, educational qualification, discipline group, total experience, number of days of technical training and management training affect readiness to take up the leadership role. The paper suggests that the value of autonomy of institution and freedom in work of the individual in pursuing their profession tends to affect the individual's readiness to take up the leadership role. This is because people in general do not want to be controlled by others and at the same time do not want to control others by accepting the leadership role readily.

Introduction

The issues in Organizational Behavior (OB) and Human Resource Management (HRM) are independent variables in any organization and have an impact on the dependent variable 'performance' in that organization. The variables in the fields of OB and HRM have not been studied so far in Agricultural Research System. This may be because research organizations are not easy to fight with, as their product is often intangible and performance in them is difficult to measure. Also, the human resources populating them are unique and sensitive. Thus, there is a shortage of scientifically-derived knowledge on even what is happening in research institutes. Hence, there is a need to generate scientifically and empirically-derived knowledge about several issues related to the internal functioning of research institutes to improve their performance. A study on the research leadership in the agricultural research will throw some light on the internal functioning of the research system. One of the ways to gain

¹ Principal Scientist, NAARM, Rajendranagar, Hyderabad 500407, India: and is the corresponding author. E-mail: rvs@naarm.ernet.in

² Principal Scientist, NAARM, Rajendranagar, Hyderabad 500407, India. E-mail: khrao@naarm.ernet.in

³ Scientist, NAARM, Rajendranagar, Hyderabad 500407, India. E-mail: anantasarkar@naarm.ernet.in

⁴ Research Associate, NAARM, Rajendranagar, Hyderabad 500407, India. E-mail: debasmita@naarm.ernet.in

⁵ Principal Scientist, NAARM, Rajendranagar, Hyderabad 500407, India. E-mail: mmanwer@naarm.ernet.in

an understanding of leadership is to examine the different roles carried out by the leaders. These roles are a subset of managerial roles studied by Mintzberg (1973). This includes all the expected activities or behaviors stemming from the job being performed. The following eight roles have been classified as part of the leadership function of management (DuBrin, 2002).

Acting as figurehead, leaders spend part of their time engaging in ceremonial activities or serving as an official representative of the organization or escorting official visitors. As spokesperson, they answer letters or enquiries and formally reports to individuals and groups outside the manager's direct organizational unit like upper level management, clients or customers, labor unions, professional colleagues and the general public about the unit's activities, plans, capabilities and possibilities (vision). As negotiator, they make deals with others for needed resources which includes bargaining with superiors for funds, facilities, equipment; bargaining with other units in the organization for the use of staff, facilities, equipment; bargaining with suppliers and vendors for services, schedules and delivery times. As a coach, he/she coaches the team members through recognizing their achievements, giving feedback concerning ineffective performance and informing them of steps that can improve their performance. As a team builder, he/she builds an effective team by initiating activities like recognizing the team members for their accomplishments: initiating activities like giving parties that contribute to group morale and holding periodic staff meetings to encourage team members to talk about their accomplishments, problems and concerns. Leaders act as a team player by displaying appropriate personal conduct, cooperating with other units in the organization and displaying loyalty to superiors by supporting their plans and decisions fully. In the role of a technical problem solver, they serve as a technical expert or advisor and perform as an individual contributor towards tasks on a regular basis such as repairing machinery. Leaders play the role of an entrepreneur by suggesting innovative ideas or furthering the activities of the organization through reading professional journals to keep up with what is happening in the profession; talking with customers and others in the organization to keep aware of the changing needs and requirements; getting involved in situations outside the unit like participating in educational programs that could suggest ways of improving unit's performance. Thus, a managerial leader in some way influences or inspires others.

According to a report published in *Harvard Business Review*, the most basic role for corporate leaders (research scientist) is to release the leadership spirit that makes initiatives, creative and entrepreneurship possible (DuBrin, 2002). For the research scientist (knowledge worker), the leadership spirit comes from certain traits and attributes as well as by the value system of the profession to which he or she subscribes. Ahmad (1981) suggested the following four important hypothetical traits of a knowledge worker.

- 1. Knowledge workers are highly sensitive;
- 2. Knowledge workers are highly egotistical;

- 3. Knowledge workers are basically exhibitionists; (and consequently)
- 4. Knowledge workers actualize themselves through the recognition of colleagues, peers and others.

Ahmad (1981) also stated that scientists and academics consider the following values as most important aspects of their profession:

- · The value of autonomy of research/academic institutions;
- · The value of freedom in research/academic work;
- The value of creativity, originality, priority, intellectual honesty, etc. in scholarship (i.e., scientific/academic excellence); and
- · The value of (peer) recognition for excellence.

As human beings, knowledge workers would be as much or as little sensitive to things in general as anybody else. But in the professional world, they are extremely sensitive to anything that might be considered a violation of their academic freedom, a denial of academic excellence, or of recognition by peers. Similarly, what has been called egotism and exhibitionism is a response to the heavy emphasis on expectation of being creative and original in one's thinking and being recognized for that by peers. Based on the above discussion, it can be said that the value of autonomy of institution, freedom in work of the individual in pursuing their profession and their sensitiveness to things affect the individual's readiness to take up the leadership role.

Methodology

Objectives of the Study

The objectives of the study include:

- 1. To identify leadership styles of research leaders of ICAR; and
- 2. To measure the leadership effectiveness of leaders and collect information through self-assessment on basic leadership qualities of these research leaders.

The long-term objectives include: suggesting measures for leadership effectiveness and appropriate leadership styles, formulate recommendations for HRD in research organizations for leadership, improve basic leadership qualities in research organizations.

Locale of Study

National Agricultural Research System (NARS) in India constituting the Indian Council of Agricultural Research (ICAR) and State Agricultural Universities (SAUs) were selected as the locale of the study. The leadership characteristics of scientists of ICAR only are discussed in this paper. ICAR is catering to the needs of both the Agricultural Universities

38

in the field of research and education and the farming community through the development and dissemination of technology and methodologies for improved production and productivity. The respondents included scientists of ICAR located in 95 ICAR institutions and their regional stations in India.

Research Design

The ex-post facto research design was used in the present study, as it deals with the events which have already happened, and the researcher does not have any control over the study variables. The inference about the relationships among independent and dependent variables was made without the direct involvement of the study due to continuous variation in the independent and dependent variables.

Method of Sampling

The respondents were briefed about the study, its purpose and objectives by a letter or by personal interaction of project team members as the case may be and were supplied with questionnaires. About 619 questionnaires were sent to 95 ICAR institutions and their regional stations, out of which 103 filled-in questionnaires were received. Apart from this, the instruments were also administered to 88 participants attending different training programs in the National Academy of Agricultural Research Management (NAARM) during the project tenure. A total of 191 questionnaires were obtained from the respondents which were used for the study.

Selection and Measurement of Variables

In view of the objectives set for the study, the dependent variable pertaining to leadership effectiveness, such as readiness for leadership role was considered. As the leadership behavior is thought to be a learned behavior rather than inherited, factors which affect the learning process may also affect the leadership behavior. As a consequence, independent variables such as designation, age, gender, educational qualification, discipline group, total service experience, period of technical training undergone, period of management training undergone, which are expected to have some bearing on the learning process, were identified for inclusion in the study as factors which may affect the readiness to take up the leadership role.

Adoption and Standardization of Survey Questionnaire

Based on the study objectives and the variables included, suitable instrument was selected from the literature. The instrument to study Readiness for Leadership Role (RLR) developed by DuBrin (2002) was used. The instrument was adapted for Indian audience and was pretested with the participants of training programs at NAARM, a unit of ICAR. Initially, the instrument was tested with 50 trainees and the result of information was verified with the trainees through feedback session and it was observed that the results and the interpretation were correct. Afterwards, it was used regularly in some more training programs and a majority of participants agreed with the results and the interpretation of

the instrument. The instrument tests the readiness of the respondent to take up the leadership role, as perceived by the respondent.

Readiness for Leadership Role

The instrument on the readiness for leadership role measures the different roles played by the leader. The instrument has 20 statements about self with a 5-point scale range for giving option by the respondent starting from strongly disagree, disagree, neutral, agree and strongly agree. The score given to these options range from 1 for strongly disagree to 5 for strongly agree. Based on the scores obtained, the respondents can be classified as showing a high readiness, moderate readiness and low readiness for the leadership role.

Statistical Analysis

The instrument in the questionnaire was scored with the help of the key for the instrument and the data so obtained for the dependent variable was coded, tabulated and analyzed using simple tabular analysis with frequencies and percentages using Microsoft Excel and SAS 9.2 software. Fisher's exact test was used for finding the relationship between the independent variable like designation, age, gender, educational qualification, discipline group, total service experience, period of technical training undergone, period of management training undergone and the dependent variable readiness for leadership role score. As the response variable is of ordinal type with three categories: RLR High, Medium and Low and the independent variables are also being converted into nominal (gender and discipline group) and ordinal (designation, age, educational qualification, total experience, number of days of technical trainings and management trainings) type, the relationship between the dependent variable and independent variables was studied using Multinomial Logistic Regression Analysis (Agresti, 2002; and O'connell, 2006) using SAS 9.2 software (SAS, 2009).

Results and Discussion

The study involved a total number of 191 scientists of ICAR. The information on the basic data in Table 1 indicates that there were 15 respondents in Research Management Position (RMP), while 125 were senior or principal scientists and 51 were scientists. The age categorization indicated that up to 40 years of age, there were 36 respondents; from 40-60 years of age, there were 37 respondents; and beyond 60 years of age, there were 118 respondents. There were 175 male respondents and 16 female respondents. And 175 respondents were having Ph.D. qualification, while 16 were having only M.Sc. qualification indicating that ICAR is equipped with highly qualified workforce to pursue its research agenda. Among the different disciplines of agriculture, 22 belonged to commodity improvement, 72 belonged to commodity production, 26 from commodity protection, 8 from social sciences and 63 from basic sciences. In the case of job experience, 28 had up to 10 years of job experience, 24 had from 10-20 years of experience and 139 had more than 20 years of job experience. And 91 people had attended technical training

Table 1: Total Number of Respondents in Different Categories of Leadership Domains								
Category		ı	lumbers			Total		
Position	RMP (15)	Senior Level Scientists (125)		Scientists (51)	191		
Age	Up to 40 years (36)		40-50 years (37)		Above 50 years (118)	191		
Gender	Male (175)		Female (16)		. —	191		
Educational Qualification	M.Sc. (16)		Ph.D. (175)			191		
Discipline	Commodity Improvement (22)	Commodity Production (72)	Commodity Protection (26)	Social Sciences (8)	Basic Sciences (63)	191		
Experience	Up to 10 ye	ears (28)	10-20 yea	ars (24)	Above 20 years (139)	191		
Technical Training Experience	Up to 30 days (91)	30-90 days (35)	90-180 days (27)		180-365 days (38)	191		
Management Training Experience	Up to 30 days (118)	30-90 days (25)	90-180 da	ays (26)	180-365 days (22)	191		

programs up to 30 days of period, 35 people had attended technical training programs of 30-90 days duration, 27 people attended technical training programs of 90-180 days duration, and 38 people had attended technical training programs of more than 180 days duration. Similarly, 118 people had attended management training programs up to 30 days of period, 25 people had attended management training programs of 30-90 days duration, 26 people attended management training programs of 90-180 days duration and 22 people attended management training programs of more than 180 days duration.

It is observed from Table 2 that high RLR was more at RMP (13.33%) and senior level. However, relatively more number of researchers were found in moderate RLR level at Young Scientist (96.08%) than Senior Level Scientist (88.00%) and RMP (86.67%). This shows that sufficient scope exists for training intervention to prepare senior level scientists in general, and young scientists in particular, to develop leadership qualities.

It is observed from Table 3 that relatively more (10.17%) people of age group of above 60 years were found in high RLR than leaders of up to 60 years of age. However, relatively

a di a mana di a ma		R	LR	
esignation	High	Moderate	Low	Total
MP	2	13	0	15
	(13.33)	(86.67)	(0.00)	
enior Level	11	110	4	125
ientist	(8.80)	(88.00)	(3.20)	
oung Scientist	0	49	2	51
	(0.00)	(96.08)	(3.92)	
otal	13	172	6	191

Table 3: RLR and Age (Years) Category					
A (M)	RLR				
Age (Years)	High	Moderate	Low	Total	
<=40	0 (0.00)	33 (91.67)	3 (8.33)	36	
40-60	1 (2.70)	34 (91.89)	2 (5.41)	37	
>60	12 (10.17)	105 (88.98)	1 (0.85)	118	
Total	13	172	6	191	

more number of researchers was found in moderate RLR level at all the three age groups. Low RLR was observed more in the case of lower age group. This might be due to the reason that in early years of research leadership, the leaders are not able to develop confidence in them. As they mature in age, more leaders develop confidence and readiness to take up the leadership role.

It is observed from Table 4 that more male respondents were in high RLR than female. At the moderate and low RLR level also, it was seen more male respondents than females and this is simply due to the fact that there were very few female respondents.

High RLR was observed for respondents having Ph.D. qualification (Table 5). This might be due to the maturity and exposure the respondents got, while pursuing higher studies and also the interactions they had with experienced and senior researchers.

Table 4: Gender × RLR Cross Tabulation (Frequency)						
Gender	RLR					
14.2	High	Moderate	Low	Total		
Male	13 (6.81)	157 (82.20)	5 (2.62)	175		
Female.	0.00	15 (7.85)	1 (0.52)	16		
Total	13 (6.81)	172 (90.05)	6 (3.14)	191		

Educational	rational Qualification × RLR Cross Tabulation (Frequency)				
Qualification	High	Moderate	Low	Total	
M.Sc.	0 (0.00)	15 (93.75)	1 (6.25)	16	
Ph.D.	13 (7.43)	-157 (89.71)	5 ₄ . (2.86)	175	
Total	13	172	6	191	

It is observed from Table 6 that there was not much difference between discipline groups on the level of readiness to take up the leadership role indicating that the RLR is discipline neutral.

It is observed from Table 7 that relatively more (9.35%) leaders of more than 20 years of experience were found in high RLR group. However, relatively more number of researchers were found in moderate RLR level at lower experience group of 10-20 years (95.83%) than

Table 6: Discipline × RLR Cross Tabulation (Frequency)						
Discipline	RLR					
Discipline	High	Moderate	Low	Total		
Commodity	1	20	1	22		
Improvement	(4.55)	(90.91)	(4.55)			
Commodity	5	65	2	72		
Production	(6.94)	(90.28)	(2.78)	ana eta jan aja jetanan jako anjan Aran makaja najamanja taka o asjila gaj s		

Table 6 (Cont.)

Discipline	RLR					
	High	Moderate	Low	Total		
Commodity Protection	3 (11.54)	20 (76.92)	3 (11.54)	26		
Social Sciences	0 (0.00)	8 (100.00)	0 (0.00)	8		
Basic Sciences	4 (6.35)	59 (93.65)	0 (0.00)	63		
Total	13	172	6	191		

Experience		RI	LR	
(Years)	High	Moderate	Low	Total
<=10	0 (0.00)	25 (89.29)	3 (10.71)	28
10-20	0 (0.00)	23 (95.83)	1 (4.17)	24
>20	13 (9.35)	124 (89.21)	2 (1.44)	139
Total	13	172	6	191

in up to 10 years of experience (89.29%) and more than 20 years of experience group (89.21%). Even low RLR was also more in up to 10 years of experience. This again might be due to the reason that in early years of research leadership, the leaders have less confidence in themselves. As they mature in age and gain more experience in research, more leaders develop confidence and also the readiness to take up the leadership roles.

Though it is observed from Table 8 that number of days of technical training does not affect much for high and moderate RLR but it is clear that low RLR was observed in the case of less than 30 days of technical training.

It is seen in Table 9 that the number of days of management training does not affect much for high and moderate RLR but it is clear that low RLR is observed in case of less than 90 days of management training.

It is also observed that in the leadership study, only 13 respondents (6.81%) have scored high RLR, whereas 172 have scored moderate RLR (90.05%). Chi-square test

Table 8: Tech	nical Training	s (Days) × RLR (Cross Tabulation	n (Frequency)			
Technical		RLR					
Trainings (Days)	High	Moderate	Low	Total			
<=30	6 (6.59)	80 (87.91)	5 (5.49)	91			
30-90	2 (5.71)	33 (94.29)	0 (0.00)	35			
90-180	2 (7.41)	24 (88.89)	1 (3.70)	27			
>180	3 (7.89)	35 (92.11)	0 (9.00)	38			
Total	13	172	6	191			

	Table 9: Management Trainings (Days) × RLR Cross Tabulation (Frequency)				
Management		RLR			
Trainings (Days)	High	Moderate	Low	Total	
<=30	10 (8.47)	104 (88.14)	4 (3.39)	118	
30-90	3 (12.00)	22 (88.00)	0 (0.00)	25	
90-180	0 (0.00)	25 (96.15)	1 (3.85)	26	
>180	0 (0.00)	21 (95.45)	1 (4.55)	22	
Total	13	172	6	191	

was found to be not valid as all the two-way frequency test results indicated that more than 20% of the cells have an expected frequency less than 5; therefore, Fisher's exact test was used and age and total experience of the personnel were found to be associated with RLR at 5% level of significance (Table 10).

As the response variable was of ordinal type with three categories: RLR High, Medium and Low and the independent variables were also converted into nominal (gender and discipline group) and ordinal (designation, age, educational qualification, total experience, number of days of technical trainings and management trainings) type, the data was

Table 10: Fisher's Exact Test for Association with RLR				
Variable: Association with RLR	Pr <= P			
Designation	0.1001			
Age	0.0156			
Gender	0.3338			
Educational Qualification	0.3338			
Discipline Group	0.2566			
Total Experience	0.0234			
Technical Trainings	0.7573			
Management Trainings	0.3892			

analyzed using Multinomial Logistic Regression Analysis (Agresti, 2002; and O'connell, 2006) using SAS 9.2 software.

The chi-square score for testing the proportional odds assumption was 21.2551, which was not significant with respect to a chi-square distribution with 18 degrees of freedom (p=0.2667). This indicates that the proportional odds assumption is reasonable. Maximum likelihood estimates of the parameters indicated that there is no evidence that designation, age, gender, educational qualification, discipline group, total experience, number of days of technical trainings and management trainings affect RLR at 5% level of significance (Table 11). Further, 95% Wald confidence interval for the odds ratios were computed and the same result was established as all the 95% Wald confidence interval for odds ratios include 1 in the intervals (Table 12).

Table 11: Maximum Likelihood Estimates of Parameters in the Logistic Regression Equation

ı							
	Parameter		DF	Estimate	Standard Error	Wald Chi-Square	Pr > Chi- Square
	Intercept	1	1	-1.8239	1.8278	0.9957	0.3184
	Intercept	2	1	5.8988	2.0862	7.9950	0.0047
-2	Designation	RMP		-1.7678	1.4365	1.5145	0.2185

Table 11 (Cont.)

Parameter :		DF	Estimate	Standard Error	Wald Chi-Square	Pr > Chi- Square	
Designation	Senior Level	1	-1.9460	1.1650	2.7902	0.0948	
	Scientist						
Age	1	1	-1.7412	2.3683	0.5405	0.4622	
Age	2	1	-2.0626	1.1857	3.0261	0.0819	
Gender	1	1	0.9068	1.0049	0.8141	0.3669	
Educational Qualification	. 1	1	-1.2570	1.0350	1.4748	0.2246	
Discipline Group	. 1	1	-0.3900	0.9578	0.1658	0.6839	
Discipline Group	2	1	0.0884	0.6281	0.0198	0.8880	
Discipline Group	3	1.	-0.1559	0.8247	0.0357	0.8500	
Discipline Group	4	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.0819	1.3669	0.0036	0.9522	
Total Experience	1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-2.3393	2.2563	1.0749	0.2998	
Total Experience	2	1	-1.5961	1.3237	1.4539	0.2279	
Technical Training	1	. 1₁. i	-0.6837	0.6814	1.0067	0.3157	
Technical Training	2	1	0.1741	0.7951	0.0479	0.8267	
Technical Training	3	· 1	-0.1444	0.8590	0.0283	0.8665	
Management Training	, 1	1	1.0361	0.9478	1.1950	0.2743	
Management Training	2	1	1.4010	1.1205	1.1205 1.5633		
Management Training	3	1	0.4496	1.1148	0.1627	0.6867	

Table 12: Wald Confidence Interval for Odds Ratios					
Label	Estimate	95% Confidence Limits			
Designation RMP versus Senior Level Scientist	1.195	0.226	6.324		
Designation RMP versus Young Scientist	0.171	0.010	2.851		
Designation Senior Level Scientist versus Young Scientist	0.143	0.015	1.401		
Age 1 versus 2	1.379	0.028	68.774		
Age 1 versus 3	0.175	0.002	18.187		
Age 2 versus 3	0.127	0.012	1.299		
Gender 1 versus 2	2.476	0.345	17.750		
Educational qualification 1 versus 2	0.285	0.037	2.163		
Discipline Group 1 versus 2	0.620	0.097	3.979		
Discipline Group 1 versus 3	0.791	0.098	6.373		
Discipline Group 1 versus 4	0.624	0.032	12.315		
Discipline Group 1 versus 5	0.677	0.104	4.425		
Discipline Group 2 versus 3	1.277	0.258	6.311		
Discipline Group 2 versus 4	1.007	0.067	15.131		
Discipline Group 2 versus 5	1.092	0.319	3.741		
Discipline Group 3 versus 4	0.788	0.046	: 13.623		
Discipline Group 3 versus 5	0.856	0.170	4.308		
Discipline Group 4 versus 5	1.085	0.074	15.815		
Total Experience 1 versus 2	0.476	0.012	18.955		
Total Experience 1 versus 3	0.096	0.001	8.029		
Total Experience 2 versus 3	0.203	0.015	2.714		
Technical Training 1 versus 2	0.424	0.101	1.788		
Technical Training 1 versus 3	0.583	0.122	2.796		

Table 12 (Cont.)

Label	Estimate	95% Confidence Limits		
Technical Training 1 versus 4	0.505	0.133	1.919	
Technical Training 2 versus 3	1.375	0.238	7.953	
Technical Training 2 versus 4	1.190	0.251	5.654	
Technical Training 3 versus 4	0.866	0.161	4.661	
Management Training 1 versus 2	0.694	0.172	2.798	
Management Training 1 versus 3	1.798	0.331	9.753	
Management Training 1 versus 4	2.818	0.440	18.062	
Management Training 2 versus 3	2.589	0.321	20.875	
Management Training 2 versus 4	4.059	0.452	36.490	
Management Training 3 versus 4	1.568	0.176	13.938	

Conclusion

In order to have an effective and dynamic leadership for an organization, its leaders should be able to score high on the characteristic of readiness to take up the leadership role. This study indicates that only 6.8% of respondents have a high readiness to take up the leadership role. Ninety percent of the respondents of this study have moderate readiness to take up the leadership role. Multinomial logistic regression analysis results indicated that there is no evidence to suggest that respondent's designation, age, gender, educational qualification, discipline group, total experience, number of days of technical training and management training affect readiness to take up the leadership role. From these observations, it is suggested that the value of autonomy of institution and freedom in work of the individual in pursuing their profession is affecting the individual's readiness to take up the leadership role, as no one wants to be controlled by others and also at the same time does not want to control others by accepting leadership role readily.

Suggestions for Improvement: Thus, from the above, it is found that in agricultural researchers of ICAR, the readiness to take up the leadership role is not high and it is suggested that in order to improve this readiness to take up the leadership role, certain initiatives may be planned in ICAR. These initiatives are to be in the shape of planned, leadership development program. The research managers could be advised for mentoring the potential young scientists to provide second line of leadership to the organization who would assume appropriate leadership roles readily in future. There is a need to assign

challenging tasks coupled with responsibility, accountability and autonomy to imbibe leadership and to acquire confidence to become ready to take up the leadership role during the early career of young scientists. These in turn would result in enhanced leadership, which will positively influence the organizational effectiveness. These suggestions were elaborately discussed at NAARM during the national dialog on "Building Leadership in Agricultural Research Management – Concerns and Future Strategy" during August 2010 (Joshi *et al.*, 2010). □

References

- 1. Ahmad Aqueil (1981), "Knowledge Work: Its Evaluation and Reward", *R&D Management*, Vol. 11, No. 2, pp. 69-78.
- 2. Agresti A (2002), Categorical Data Analysis, Second Edition, John Wiley & Sons, New York.
- 3. DuBrin A J (2002), *Leadership: Research Findings, Practice, and Skills*, Second Edition, p. 442, Houghton Mifflin Company, Boston.
- 4. Joshi P K, Manikandan P and Paroda R S (2010), "Building Leadership in Agricultural Research Management Concerns and Future Strategy", in Summary Proceedings and Recommendations of National Dialogue on August 27-28, NAARM, Hyderabad 24 Pages.
- 5. Mintzberg H (1973), *The Nature of Managerial Work*, p. 298, Harper & Row, New York.
- 6. O'connell Ann A (2006), Logistic Regression Models for Ordinal Variables, Series: Quantitative Applications in the Social Sciences, Sage Publications Inc., USA.
- 7. SAS Institute Inc. (2009), Statistics I: Introduction to ANOVA, Regression and Logistic Regression Course Notes, Cary, NC: SAS Institute Inc.

Appendix

Questionnaire

Readiness for the Leadership Role

Directions:

Indicate the extent to which you agree with each of the following statements, by circling the number, using the following scale: 1, disagree strongly; 2, disagree; 3, neutral; 4, agree; 5, agree strongly.

Appendix (Cont.)

S. No.	Statements	Circl	e You	ır Choi	ce Bel	low
1.	. It is enjoyable having people count on me for ideas and suggestions		2 ·	3	4	5
2.	It would be accurate to say that I have inspired other people		2	3	4	5
3.	It is a good practice to ask people provocative questions about their work	1	2	3	4	5
4.	It is easy for me to compliment others	1	2	3	4	5
5.	I like to cheer people up even when my own spirits are down	1	2	3	4	5
6.	What my team accomplishes is more important than my personal glory	1	2	3	4	5
7.	Many people imitate my ideas	1	2	3	4	5
8.	Building team spirit is important to me		2	3	4	5
9.	I would enjoy coaching other members of the team	1	2	3	4	5
10.	It is important to me to recognize others for their accomplishments	1	2	3	4	5
11.	I would enjoy entertaining visitors to my office even if it interfered with my completing a report	1	2	3	4	5
12.	It would be fun for me to represent my team at gatherings outside our department		2	3	4	5
13.	The problems of my team mates are my problems too	1	2	3	4	5
14.	Resolving conflict is an activity I enjoy	1	2	3	4	5
15.	15. I would cooperate with another unit in the organization even if I disagreed with the position taken by its members		2	3	4	5
16.	I am an idea generator on the job		2	3	4	5
17.	It is fun for me to bargain whenever I have the opportunity	1.	2	3	4	5
18.	Team members listen to me when I speak	1	2	3.	4	5
19.	People have asked me to assume the leadership of an activity several times in my life	1	2	3	4	5
20.	0. I have always been a convincing person		2	3	4	5

Appendix (Cont.)

Key				
Readiness for the Leadership Role				
Scoring and Interpretation: Calculate your total score by adding the numbers circled. A tentative interpretation of the scoring is as follows:				
90-100 high readiness for the leadership role				
60-89	moderate readiness for the leadership role			
40-59 some uneasiness with the leadership role				
39 or less low readiness for the leadership role				

If you are already a successful leader and you scored low on this questionnaire, ignore your score. If you scored surprisingly low and you are not yet a leader, or are currently performing poorly as a leader, study the statements carefully. Consider changing your attitude or your behavior so that you can legitimately answer more of the statements with a 4 or 5. Studying the rest of this text will give you additional insights that may be helpful in your development as a leader.

Reference # 06J-2012-04-02-01

		1	Form IV
1.	Place of publication	:	Hyderabad
2.	Periodicity of its publication	:	Quarterly
3.	Printer's Name	:	EN Murthy
	Nationality	:	Indian
	(a) Whether a citizen of India?	:	Yes
	Address	:	M/s. ICIT Software Center Pvt. Ltd.,
			Plot Nos. 165 & 166 P, Phase-V, IDA,
			Jeedimetla, Hyderabad 500055.
4.	Publisher's Name	:	EN Murthy
	Nationality	:	Indian
	(a) Whether a citizen of India?	1	Yes
	Address	:	# 52, Nagarjuna Hills,
			Panjagutta, Hyderabad 500082.
5.	Editor's Name	:	E N Murthy
	Nationality	:	Indian
	(a) Whether a citizen of India?	:	Yes
	Address	:	# 52, Nagarjuna Hills,
			Panjagutta, Hyderabad 500082.
б.	Name and addresses of individu	ıalsu	ho own the newspaper and holding more than one
	percent of the total capital – IU	P Pu	blications, # 52, Nagarjuna Hills, Panjagutta,
	Hyderabad 500082. 👚		
, ,	CNIM with the audit of adapta that the	partic	culars given above are true to the best of my knowledge
	c. in Muriny, nereby dedate tractie nd belief.	pauc	and give i doo ve die dae to the best of my fillerweege
ar	id delier.		
D	ate		Sd/-
A:	pril 2012		Signature of Publisher