PERCEIVED COMMUNICATION EFFECTIVENESS AMONG RESEARCHERS, EXTENSION PERSONNEL AND FARMERS

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In the development of agriculture particularly in countries like India where about 65 per cent of the population depends on agriculture, communication plays a significant role in transfer of technology. Agricultural progress in any country depends upon spread of reliable, pragmatic and accurate information related to recommended improved practices to the tillers of the soil. To create awareness and awakening, it is essential that the message is communicated regularly, effectively and efficiently with the support of media to the clientele group. Acceptance of information and ideas by receivers is based on "who said it" and how they perceive the communication source. Personal, psychological and communication characters of extension personnel and farmers are the important factors influencing their perceived communication effectiveness of researchers and extension personnel. Hence the present study was undertaken to study the perceived communication effectiveness among researchers, extensionists and farmers and to find out the influence of selected factors on perceived communication effectiveness.

Methodology

Ex-post-facto research design was followed in the investigation. Krishna Godavari agroclimatic zone of Andhra Pradesh was selected purposefully since a large number of researchers and extension personnel are working in this zone. A sample of 220 respondents was selected using simple random sampling method. The sample included 50 Assistant Directors of Agriculture (ADA's) and Agricultural Officers (AO's) from state department of agriculture, 50 researchers working in agricultural research stations of Acharya N. G. Ranga Agricultural University and 120 farmers in the aforesaid zone. To measure communication effectiveness of researchers and extension personnel as perceived by extension personnel and farmers respectively, scales were constructed using Lickert method of summated ratings. The data was collected personally by administering questionnaires for researchers and extension personnel and standardized schedules for farmers. To study the relationship and contribution of independent variables on dependent variable, correlation analysis, multiple regression analysis and step down regression analysis were carried out.

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Results and Discussion

1) Perception of Communication Effectiveness

(i) Communication Effectiveness of Researchers as Perceived by Extension Personnel

The data presented in Table 1 reveals that almost equal per cent (36 per cent and 38.per cent) of extension personnel perceived the communication effectiveness of researchers as low and high, respectively. The remaining 26 per cent of extension personnel felt that communication effectiveness of researchers was medium. To improve the communication effectiveness of researchers, there is a need to train them for effective communication. It is also necesary to motivate the researchers first to understand the needs of farmers so that they can develop and disseminate location specific farm technologies.

Table 1: Distribution of extensionists according to their perceived communication effectiveness of researchers

n = 50

Categorization of variable	Frequency	Percentage
Low	18	36.00
Medium	13	26.00
High	19	38.00

Mean : 71.98

SD : 14.56

(ii) Communication Effectiveness of Extension Personnel as perceived by Farmers

It can be observed from Table 2 that nearly forty two per cent of farmers (41.67 %) perceived that communication effectiveness of extension personnel was medium. Nearly equal per cent (28.33 and 30.00 %) of farmers perceived that communication effectiveness of extension personnel was low and high respectively. The probable reasons for this trend might be incompatible language in terms of complex scientific terms used by extension personnel, untimely information,

irregular contacts, irrelevant technologies and inadequate information given by extension personnel. To rectify these problems, extension personnel should get timely advice from researchers and extension personnel in turn can disseminate that information to farmers at the right time. Extension personnel also need to provide farmers with accurate, relevant, complete and valuable information by using understandable, compatible and simple language.

Table 2: Distribution of farmers according to their perceived communication effectiveness of extensionists

n = 120

Categorization of variable	Frequency	Percentage
Low	34	28.33
Medium	50	41.67
High	36	30.00

Mean : 50.02

SD : 9.79

2) Factors influencing Communication Effectiveness of Researchers as perceived by Extension Personnel

The results pertaining to factors influencing communication effectiveness of researchers are presented in Tables 3, 4, 5 and 6. It can be observed from table 3 that out of twelve selected variables, education, client accountability, communicative initiative, communicative responsiveness and extension personnel-farmer interaction were found to have significant positive relationship at 5 per cent level. Job commitment, role awareness and extension personnel-researcher interaction had significant positive relation at 1 per cent level, whereas age, experience, training and empathy had no relation with perceived communication effectiveness. Education facilitates extension personnel to understand the technology clearly and also helps to comprehend the message to convince farmers. Client accountability, job commitment, role awareness, communicative initiative, communicative responsiveness and interaction of extension personnel with researchers were crucial factors as they facilitate them to get accurate, timely and appropriate information from researchers and also motivate them to update their knowledge by getting their technological doubts clarified.

Table 3: Relationship between personal, psychological and communication characteristics of extension personnel and their perceived communication effectiveness of researchers

n=50

Sl.No.	Characteristics	Correlation coefficients (r)
	Personal characteristics	
1.	Age	0.2506^{NS}
2.	Education	0.3367*
3.	Experience	0.2084^{NS}
4.	Training	0.1357^{NS}
	Psychological characteristics	
5.	Client accountability	0.2744*
6.	Empathy	0.1929^{NS}
7.	Job commitment	0.3644**
8.	Role awareness	0.4809**
	Communication characteristics	
9.	Communicative initiative	0.3516*
10.	Communicative responsiveness	0.3614*
11.	Extensionist-researcher interaction	0.6478**
12.	Extensionist-farmer interaction	0.2961*

^{NS} - *Non-significant*

* - *Significant at 5 per cent level*

**- *Significant at 1 per cent level*

Further it is evident from table 4 that all twelve variables analyzed through multiple regression analysis combined together contributed for 58.45 per cent variation in perceived communication effectiveness. Out of twelve variables, only one variable viz., extension personnel-researcher interaction was highly significant. This might be due to good and regular relations of extension personnel with researchers.

Table 4: Contribution of personal, psychological and communication characteristics of extension personnel on their perceived communication effectiveness of researchers

n=50

Sl. No.	Characteristics	Regression coefficient (b)	SE. of regression coefficient	t-value
	Personal characteristics			
1.	Age	0.4502	0.3204	1.4050^{NS}
2.	Education	1.9856	4.1188	0.4820^{NS}
3.	Experience	-0.2407	0.3308	0.7270^{NS}
4.	Training	1.5589	2.2640	0.6885^{NS}
	Psychological characteristics			
5.	Client accountability	0.6596	0.8795	0.7499^{NS}
6.	Empathy	-2.4580	1.5426	1.5934^{NS}
7.	Job commitment	0.3607	0.4491	0.0030^{NS}
8.	Role awareness	0.5680	0.3980	1.4269^{NS}
	Communication characteristics			
9.	Communicative initiative	-0.5961	1.5962	0.3734^{NS}
10.	Communicative responsiveness	0.4272	1.1188	0.3818^{NS}
11.	Extensionist-researcher interaction	2.0455	0.5674	3.6049**
12.	Extensionist-farmer interaction	0.0070	0.6976	0.0100^{NS}

^{NS} - *Non-significant* $R^2 = 0.5845$

** - *Significant at 1 per cent level* $F = 4.338^{**}$

Similarly from Tables 5 and 6, it can be observed by step down regression analysis that empathy, role awareness and extension personnel-researcher interaction were good predictors of perceived communication effectiveness. Out of 58.45 per cent variation contributed by twelve variables, the above three variables alone accounted for 53.95 per cent variation. Hence the empathetic abilities and role awareness of extension personnel need to be enhanced through training programs. There is also a need to increase the number of contacts between extension personnel and researchers so that extension personnel can familiarize themselves with recent technologies and in turn researchers can get adequate feedback through extension personnel.

Table 5: Personal, psychological and communication characteristics of extension personnel and their perceived communication effectiveness of researchers - step down regression analysis

n=50

Step No	Variable dropped	R^2	F-value	Partial b	t-value
1.	-	0.5845	4.3385	-	-
2.	Extensionist – farmer interaction (X_{12})	0.5845	4.8608	0.0070	0.0101
3.	Communicative responsiveness (X_{10})	0.5828	5.4501	0.4283	0.3900
4.	Communicative initiative (X_9)	0.5823	6.1968	-0.2906	0.2276
5.	Training (X_4)	0.5781	7.0223	1.2924	0.6375
6.	Education (X_2)	0.5727	8.0438	2.6484	0.7197
7.	Experience (X_3)	0.5676	9.4101	-0.2163	0.7077
8.	Client accountability (X_5)	0.5634	11.3584	0.4824	0.6470
9.	Job commitment (X_7)	0.5555	14.0612	0.3561	0.8938

Table 6: Communication effectiveness of researchers as perceived by extension personnel and the remaining personal, psychological and communication characteristics at the last step of step down regression analysis

n=50

Last step	Variables remaining	Partial b	SE of b	t value
10	X_6 Empathy	-2.0331	0.8208	2.4770*
	X_8 Role awareness	0.9031	0.2613	3.4557**
	X_{11} Extension personnel-researcher interaction	2.2505	0.4722	4.7663**
R^2 = 0.5395 F = 17.969**				

** - Significant at 5 per cent level; ** - Significant at 1 per cent level*

3) Factors influencing Communication Effectiveness of Extension Personnel as perceived by Farmers

Correlation coefficients of twelve variables on perceived communication effectiveness are presented in Table 7. It is evident from Table 7 that out of twelve selected variables education, training, client satisfaction, innovativeness, scientific

orientation, economic motivation, communicative initiative, communicative responsiveness and interaction with extension personnel by farmers were found to have significant positive relationship at 1 per cent level, whereas age and farming experience had significant negative relationship at 1 per cent level with their perceived communication effectiveness of extension personnel. Education, training, innovativeness, scientific orientation, economic motivation, communicative initiative and communicative responsiveness were the factors that helped farmers understand technology, learn new skills and knowledge, to get timely, reliable, accurate and adequate information regarding technologies developed, hence they had a positive relationship with dependent variable. Age and farming experience had negative relationship because of inconsistencies in researchers' recommendations over the course of time.

Table 7 : Relationship between personal, psychological and communication characteristics of farmers and their perceived communication effectiveness of extension personnel

n=120

Sl.No.	Characteristics	Correlation coefficients (r)
	Personal characteristics	
1.	Age	-0.2485**
2.	Education	0.5892**
3.	Farm size	0.1619NS
4.	Farming experience	-0.2494**
5.	Training	0.3990**
	Psychological characteristics	
6.	Client satisfaction	0.3829**
7.	Innovativeness	0.5649**
8.	Scientific orientation	0.5216**
9.	Economic motivation	0.5318**
	Communication characteristics	
10.	Communicative initiative	0.6069**
11.	Communicative responsiveness	0.5748**
12.	Farmer-extensionist interaction	0.7111**

NS - Non-significant
*** - Significant at 1 per cent level*

Perusal of Table 8 reveals that coefficient of determination (R^2) was significant at 0.01 per cent level for the variable farmer-extension personnel interaction in multiple regression analysis and this is the only variable contributing significantly for the variation in perceived communication effectiveness. This trend could be explained by the fact that higher the farmer-extension personnel interaction, more will be the communication effectiveness of extension personnel perceived by farmers. However, all the twelve variables put together explained 58.84 per cent of influence on perceived communication effectiveness. F value for the R^2 value of the independent variables was 14.04, indicating highly significant at 0.01 per cent level of probability.

Table 8 : Contribution of personal, psychological and communication characteristics of farmers on their perceived communication effectiveness of extensionists

n=120

Sl. No.	Selected characteristics	Regression coefficient (b)	SE. of regression coefficient	t-value
	Personal characteristics			
1.	Age	-0.2420	0.1402	1.72534^{NS}
2.	Education	0.8003	0.5283	1.51469^{NS}
3.	Farm size	0.0903	0.1575	0.57317^{NS}
4.	Farming experience	0.1959	0.1337	1.46543^{NS}
5.	Training	1.5291	1.1103	1.37712^{NS}
	Psychological characteristics			
6.	Client satisfaction	0.1824	1.3589	0.13424^{NS}
7.	Innovativeness	0.2188	0.3471	0.63039^{NS}
8.	Scientific orientation	0.1482	0.3166	0.46804^{NS}
9.	Economic motivation	0.2550	0.4222	0.60401^{NS}
	Communication characteristics			
10.	Communicative initiative	0.4964	0.4868	1.01972^{NS}
11.	Communicative responsiveness	0.2224	0.5885	0.37797^{NS}
12.	Farmer-extensionist interaction	1.4730	0.4087	3.60391**

^{NS} - Non-significant *R^2 = 0.5884*

** - Significant at 1 per cent level *F = 14.04***

Further, step down regression analysis results presented in tables 9 and 10 infer that age, education, farming experience, communicative initiative and farmer-extension personnel interaction were the major contributing factors for the variation in perceived communication effectiveness. A percentage of 56.83 of variation out of 58.85 per cent was contributed by the above five variables alone. These variables might have facilitated farmers to perceive communication effectiveness of extension personnel as high. Hence, there is a need to concentrate on enhancing farmers' communicative initiative and their interaction with extension personnel.

Table 9 : Personal, psychological and communication characteristics of farmers and their perceived communication effectiveness of extension personnel-step down regression analysis

n=120

Step No.	Variables dropped	R^2	F-value	Partial b	t-value
1.	-	0.5885	12.7551	-	-
2.	Client satisfaction (X_6)	0.5884	14.0407	0.1824	0.1324
3.	Communicative responsiveness (X_{11})	0.5879	15.5510	0.2268	0.3879
4.	Scientific orientation (X_8)	0.5870	17.3754	0.1499	0.4776
5.	Farm size (X_3)	0.5856	19.6148	0.0932	0.6018
6.	Economic motivation (X_9)	0.5829	22.3620	0.3411	0.8622
7.	Innovativeness (X_7)	0.5765	25.6401	0.3942	1.3103

Table 10 : Communication effectiveness of extension personnel as perceived by farmers and the remaining personal, psychological and communication characteristics at the last step of step down regression analysis

n=120

Last step	Variables remaining	Partial b	SE of b	t value
8	X_1 Age	-0.2513	0.1358	1.0497^{NS}
	X_2 Education	1.1775	0.4677	2.5173*
	X_4 Farming experience	0.2002	0.1300	1.5403^{NS}
	X_{10} Communicative initiative	0.8427	0.3848	2.1901*
	X_{12} Farmer-extension personnel interaction	1.7538	0.3792	4.6252**
	$R^2 = 0.5683$ $F = 30.02^{**}$			

^{NS} - *Non-significant*

* - *Significant at 5 per cent level;* ** - *Significant at 1 per cent level*

Conclusion

The differential perception of communication effectiveness clearly indicates the importance of training communicators to disseminate the information to the receivers based on their perceived needs. It could be concluded that the State Department of Agriculture needs to organize appropriate training programs to enhance the empathetic abilities, role awareness, job commitment and client accountability of extension personnel so that their perceived communication effectiveness of researchers can be increased and they can also communicate research findings effectively to farmers.

References

Chaudhary P C, Bareth L S and Dalal R S 1999 Credibility of information sources.

Giriandhan P V 1977 A study on relative source credibility and information seeking pattern of farmers. M.Sc(Ag) thesis, UAS, Bangalore.

Joseph B and Vohra N 2002 Characteristics of effective communicators : Perception of Indian Managers. *Indian Journal of training and development* 32(2) : 21-27.

Padheria M M, Soni M C and Bhilegaonkar M G 1989 Relative effectiveness of information sources and channels in adoption of farm technology. *Maharashtra journal of Extension Education* 6 : 151-156.