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Effectiveness of Extension Methods in the Diffusion of Improved Agricultural Practices among Small Farmers

By

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ABSTRACT

Group contact methods like agricultural meetings and trainings were found responsible for diffusing the practices such as improved implements, improved seeds and use of fertilizers. Neighbours and relatives played a dominant role in diffusing the practice of plant protection among small farmers. Exhibition and film shows were also effective to some extent in diffusing practices. But extension methods like demonstrations, tours and printed materials have not helped in diffusing practices among small farmers.

INTRODUCTION

Small farmers form a major bulk of the farming community in India. According to the National Sample Survey reports, of the 61.8 million operational holdings, about 44.0 million holdings are less than 5 acres. Hence the spotlight has to be on the small farmers today. While big, medium and small farmers have all to play an impotant role in giving further momentum to the agricultural revolution, the small farmers need special attention, both for reasons of social justice and for stepping up production. The main problem of the small farmer lurks around the economic aspects of the small farm and the type of cultivation the farmer undertakes to suit his economic position and his adoption (or) otherwise of the innovations of high yielding varieties, improved farming practices such as plant protection and irrigation methods. The extension agency is trying to diffuse the improved agricultural practices among the farmers through various extension methods and the effectiveness of these extension methods depends on various factors both personal and situational, of the farmer.

Wilkening (1950) reported that the farmers of upper socio-economic levels, use agricultural agencies for source of information while those of lower socio-economic levels use other farmers and dealers as their main source of information. Anderson *et al* (1953) reported neighbours and friends as the most important influencing factors in adopting the use of chemical fertrlizers.

Coleman (1955) was of the view that the adoption of farm practices was influenced by social, psychological and economic factors. The extent and nature of social contact with the community was important in the diffusion of new ideas. It was reported by

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Wilkening (1956) that the mass media had proved highly valuable in making farmers aware of improved practices. Rahudkar (1962) observed differences in the use of sources to an individual's socio-economic status and small farmers depended upon informal sources. Jha and Singh (1966) found that demonstration, exhibition, film-shows and other media were appreciably utilized by illiterate and less educated farmers for receiving information and that size of land holdings had also a significant influence on the utilization of sources of information. Thus the information seeking habit of farmers and the effectiveness of the different methods through which diffusion of innovation takes place differ from farmer to farmer. As such it is felt necessary to find out the effectiveness of the different extension methods used for the diffusion of innovations on the small farmers. This study was undertaken with the two specific objectives *viz.*, 1) To study about the knowledge of small farmers on the various methods used by the extension agency and 2) To study the comparative usefulness of the different extension methods in diffusing improved knowledge among the small farmers.

MATERIALS AND METHODS

Sarcarsamakulam block in Coimbatore district was selected purposively for this study. Out of the 13 revenue villages which constituted the block, seven villages were selected at random at the first stage. Then from the list of farmers who cultivated 5 acres and less (small farmers) prepared for each selected village, a constant fraction of 15 farmers were selected at random. Thus the total respondents for the study was 105. The field data were collected by using interview schedule, supplemented by observation technique to check and support the data. The schedule was administered personally to the head of the family who was responsible for decision making. The data gathered were processed, tabulated and statistical appraisal was made. Relevant conclusions and inference were then drawn and interpreted objectively. In this study, ten extension methods which were commonly used by the extension agencies in educating the farmers and which could be grouped under "Group methods" and "Mass contact methods" were considered besides the individual contact which was included under extension agency and studied separately. Six improved agricultural practices were also considered to find out the comparative usefulness of the different extension methods in diffusing these improved practices among the respondents.

RESULTS AND DISCUSSION

Table 1 furnishes the percentage of small farmers who had knowledge about the selected extension methods and who had participated in these methods.

The data in the above table reveal that among the various extension methods used by extension agency, extension methods, radio, exhibition, film shows were khown more by small

Table 1. Farmers knowledge and participation

Extension method	Small Farmers reporting to have known		Small Farmers in column (2) reported to have participated	
	No.	%	No.	%
1	2	3	4	5
Agricultural meetings	14	13.3	14	100.0
Agricultural trainings	1	0.9	1	100.0
Demonstrations	17	16.2	1	5.9
Tours	4	3.8	4	100.0
Campaigns	6	5.7	—	—
Exhibitions	47	44.7	32	68.1
Radio	64	60.9	60	93.8
Film shows	46	43.8	28	60.9
Printed materials	11	10.4	11	100.0
Neighbours and relatives	105	100.0	105	100.0

Note:- Multiple responses are given. Therefore, the percentage may not add upto 100.

farmers. But the extension methods like agricultural meetings, training, tours and demonstrations were less known by them. These findings are supported by the findings of Jha and Singh (1966) who found that size of holding had also a significant influence on the utilization of sources of information and Rahudkar (1962) who concluded that the educational approaches devised by the extension agency were not reaching the small farmers.

Knowledge of small farmers about improved agricultural practices:

The number and percentage of farmers reported to have known about the different improved agricultural practices are presented in table 2.

The improved practices adopting plant protection measures, using improved seeds and application of fertilizers to crops to get higher yields were known by more than 60 per cent of the respondents; but their knowledge about soil testing and multiple cropping was very low. Only about 50 per cent of

Table 2. Small farmers and improved agricultural practices

Improved agricultural practices	Farmers reporting to know (n=105) No.	%
Following soil testing practice	9	8.6
Using improved implements	52	49.5
Using improved seeds	70	66.7
Applying fertilizer	65	62.4
Adopting plant protection measures	99	94.3
Following multiple cropping	3	2.9

Note:- Multiple responses are taken and so percentage if added up may not be 100.

the farmers knew the various improved implements and their use (Table 2).

Comparative usefulness of different extension methods in diffusion of improved practices among small farmers

Table 3 represents the diffusion of improved agricultural practices through various extension methods.

The improved practice, soil testing was found to be diffused among the respondents through the extension methods, exhibition, radio and agricultural meetings. For the diffusion of the practice using improved implements, the 3 most effective extension methods were agricultural trainings, agricultural meetings and exhibitions whereas the effective extension methods for the diffusion of the practice using improved seeds were agricultural meetings, radio and tours. The extension methods agricultural trainings, agricultural meetings, radio, exhibitions etc., were found effective in diffusing the improved practice, application of fertilizers to the crops. Neighbours and relatives, radio, film-shows and so on were found effective in diffusing the practice of adopting plant protection measures against pests and diseases on crops. Agricultural meetings, exhibitions and radio diffused the practice adopting multiple cropping among the small farmers. Thus extension methods meant for group contact like agricultural meetings, and agricultural trainings were found most useful in the diffusion of practices like using improved implements, improved seeds and use of fertilizers among the small farmers. The improved practices,

Table 3. Extension methods and diffusion of improved practices

Improved practices	Small Farmers reporting to have known through extension methods as																					
	Agricultural meetings (n=14)		Agricultural trainings (n=1)		Demonstrations (n=3)		Tours (n=4)		Campaigns (n=6)		Exhibitions (n=47)		Radio (n=64)		Film-shows (n=46)		Printed materials (n=11)		Neighbours and relatives (n=105)	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Soil testing	1	7.1 (2)	—	—	—	—	—	—	—	—	7	14.9 (1)	1	1.15 (3)	—	—	—	—	—	—		
Using improved implements	6	42.8 (2)	1	100.0 (1)	1	33.3 (4)	1	25.0 (6)	—	—	17	36.1 (3)	—	—	10	21.7 (7)	—	—	29	27.6 (5)		
Using improved seeds	12	85.7 (1)	—	—	1	33.3 (7)	2	50.0 (3)	—	—	22	46.8 (4)	41	64.0 (2)	20	43.5 (5)	3	27.3 (8)	41	39.0 (6)		
Application of fertilizers	13	92.8 (2)	1	100.0 (1)	1	33.3 (7)	1	25.0 (9)	—	—	20	42.5 (4)	33	51.5 (3)	19	41.3 (5)	3	27.3 (8)	41	39.0 (6)		
Adopting plant protection measures	6	42.9 (4)	—	—	1	33.3 (6)	1	25.0 (8)	2	33.3 (6)	19	40.4 (5)	41	64.0 (2)	20	43.5 (3)	3	27.3 (7)	81	77.1 (1)		
Adopting multiple Cropping	1	7.1 (1)	—	—	—	—	—	—	—	—	1	2.1 (2)	1	1.5 (3)	—	—	—	—	1	0.9 (4)		

Note:

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Figures in paranthesis denotes rank order numbers.

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soil testing and multiple cropping are not very familiar with the respondents. Neighbours and relatives were the most useful method for the diffusion of the practice, adopting plant protection measures. Exhibitions and film shows were also very useful in the diffusion of improved practices. But extension methods like demonstrations, tours, printed materials, were not effective in the diffusion of the six improved agricultural practices among the small farmers.

REFERENCES

ANDERSON, M. A. *et al*, 1953. An appraisal of factors affecting the acceptance and use of fertilizers in Iowa, *Special report, Agr. Exp. Sta.. Iowa State College, p.* 7.

COLEMAN, A. L. 1955. How farm people accept new ideas. *Agric. Ext. Serv. Iowa Stat. Coll., Iowa, pp.* 1-10.

JHA, P. N. and B. N. SING 1966. Utilization of farm information as related to characteristics of farmers, *Indian J. Ext. Ed.*, 294-302.

RAHUDKAR, W. B. 1962. Farmers' characteristics associated with adoption and diffusion of improved farm proctices. *Indian J. agric. Econ,* XVIII.

WILKENING, E. A. 1950. Sources of information for improvement on agriculture, *Rural Sociology,* 15 : 19-20.

WILKENING, E. A. 1956. Role of Communicating agents in technological changes in farming (agril), *Social Forces* 34 : 361-367.