

## Change Agent Contact and the Adoption of Improved Agricultural Practices

by

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**Introduction:** The Agricultural Extension service in Andhra Pradesh, as elsewhere recommends improved practices for adoption by farmers. Though the evidence shows that the adoption of improved practices gives the farmer higher income, yet many farmers are found to be relectant to accept these recommendations. The extension worker finds that there are some who readily adopt practices recommended by him while there are others who resist and refuse to heed to his advice.

The change agents like the village level worker, however have to make every effort to establish good contacts with all the farmers to advocate the improved Agricultural practices and to bring about the necessary change in the farmers attitudes and modes of production. Earlier studies also indicate that there is a direct relationship between the intensity and the extent of the contact with the extension agency and the rate of adoption of improved practices. This extent of change agent contact can be estimated as we did here by asking the farmers to inform the number of contacts made by the change agent over a period of time with them. The objective of this study was to find out the nature of change agent contact, and its relation to the adoption of improved Agricultural practices.

**Review of Literature:** Rogers (1962) stated that the change agent was a professional person who attempted to influence the adoption decisions in a direction that he feels was desirable. The dual role of the change agent, as both an opponent of non-recommended innovations and a promoter of the recommended ideas was recognised in the description of the change agent's functions. The change agent functioned as a communication link between two social systems. Hodgdon and Singh (1964) stated that the number of farmers who were contacted by the V.L.W. and Extension Officers increased with an increase in the size of holdings and further the frequency was significantly larger for the adopters than for the non-adopters. Ratan Chand and Gupta (1966) observed that in order to obtain quick results in his work, an extension worker should concentrate his efforts with the innovators and early adopters

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who could improved things faster on their holdings which could set examples for the laggards to follow. Sinha and Rajendra Parshad (1966) reported that the information materials hardly reached the needy farmers through the extension worker. They suggested that the literature in simple language should be prepared and distributed free of cost to the farmers through village level workers, panchayats and cooperatives. Singh and Udai Parcek (1966) stated that the change agent was important at the 'need' stage. When people had 'felt needs' they talked with the change agent. Change agent and other progressive farmers within the village combinedly served as important sources for awareness. Desai and Mehta (1967) observed in their analysis that the frequency of visits of the various change agents and the adoption of improved practices had no relationship with the distance of the village from the block headquarters.

**Methodology:** An understanding of the process of adoption of Agricultural practices, and of the categories of adopters and their characteristics is helpful to extension workers in the field. The study was undertaken in two villages called Jammulapalem and Narasayapalem in Parchoor samithi in Guntur district. Jammulapalem, which happens to be the seat of the village level worker and Narasayapalem which is the farthest village from the village level worker headquarters of Jammulapalem village level worker's circle were selected for the study in order to find out the differential impact, if any, of the change agent contacts. The study was confined to only 150 respondents from both the villages, a sample of 75 farmers (decision makers) each were taken through random technique with the help of non-repeating random numbers. The interview schedule was selected for collecting the necessary data about 16 improved Agricultural practices in rice cultivation to increase the production. The interview schedule was pretested in neighbouring village and the data was collected.

The 16 improved Agricultural practices are use of improved paddy seed, treating the paddy seed with Agrozan G. N. @ the rate of 1 oz/15 kgs seed; use of seed @ 15 kgs per acre in nursery, spraying pesticides and fungicides on nursery, application of 10 cart loads of farm yard manure per acre, preparation and use of compost, growing green manure crops, application of nitrogenous fertilisers (40 N) per acre, application of superphosphate (30 P<sub>2</sub>O<sub>5</sub>) per acre, application of muriate of potash (30 K<sub>2</sub>O) per acre, use of light iron plough or tractor with puddling wheels, use of green manure trampler for trampling green manure, use of push hoe or Japanese rotary weeler, line planting at 8" x 8" or 6" x 6" and 3" apart from hole to hole spraying pesticides and fungicides on standing crops, use of zinc phosphate for rat control.

On the completion of the investigation, the 150 schedules were examined for their validity and completeness. The respondents were grouped together to formulate the scores of adoption index on the basis of the length of time and the number of practices adopted. Basing up on three years of adoption, the index score was constructed as follows: The maximum score given for three years of adoption for each practice was six score points. For the two years of adoption, the score given was three, and for the one year adoption of each practice, the score given was one. According to the score the respondents were classified for 16 practices as follows: The maximum score one could get for total adoption was 96 points when he had adopted all the farm practices. But no one had adopted all the 16 practices. In the same way all farmers were adopting at least a few practices out of 16 practices. There were, therefore, no non-adopters category in this study. Innovative adopters 61 and above score points, Early adopters 41 to 60 score points, Late adopters 21 to 40 score points and Laggards 20 and below.

**Findings and Discussions:** The data so processed was analysed and tabulated, are presented below:

*Nature of contact between Extension Agents and the Farmers.* Generally the farmers meet the extension agents for getting the fertilizers, seeds, loans and advice for the control of pests and diseases. From Table No. 1. We can see that among the 150 respondents, 106 met the extension workers for getting fertilizers, followed by 23 respondents for getting seeds, 11 respondents for getting high yielding strains, 2 respondents for securing loans from the block and another 2 respondents for getting advice for controlling pests and diseases. Among the innovative adopters, 3 (60%) had met the extension personnel for securing fertilizers and 2 (40%) for the supply of high yielding varieties. The 69 early adopters, 49 (71.01%) had established contacts with the extension agents for getting fertilizers, 7 (1.14%) for the supply of high yielding varieties, 11 (15.98%) for obtaining seeds and 1 (1.14%) for advice on the control of pests and diseases. 51 (72.97%) of the 74 late adopters had contacted the block staff for getting fertilizers, while 12 (16.20%) of them for the supply of seeds, 2 (2.70%) for securing the high yielding varieties, 2 (2.70%) for loans from the block and (1.35%) for advice on the control measures for pests and diseases. None of the laggards met the extension personnel for such advice on any farm practice. However, they met for other purposes. It is seen that 9 respondents from among all the groups did not meet the extension agents for getting information on farm practices either due to the ignorance of the farmers or due to the discouraging attitude of the block staff. It is seen that fertilizers and their supply figured prominently in the contacts between the farmers and the block personnel. The farmers had realised the utmost importance of plant nutrients.

TABLE 1. Nature of contact between change Agent and the Farmer

Adoptive categories	Nature of contact											
	Fertilizers supply		High yielding variety seed supply		Loan from block		Seed supply		Control of pests and diseases		Other purposes or no contacts	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Innovative adopters (5)	3		2	40.00	—	—	—	—	—	—	—	—
Early adopters (69)	49	60.00	7	1.14	—	—	11	15.98	1	1.44	1	1.44
Late adopters (74)	51	71.01	2	2.70	2	2.70	12	16.21	1	1.35	6	8.10
Laggards (2)	—	—	—	—	—	—	—	—	—	—	2	100
Total (150)	103		11		2		23		2		9	

TABLE 2. Initiating source of contact between change Agents and the Farmers

Adoptive categories	Extension agent himself		Farmer himself		Through a friend		Through a leader		No initiative from any source	
	No.	%	No.	%	No.	%	No.	%	No.	%
	Innovative adopters (5)	—	—	5	100	—	—	—	—	—
Early adopters (69)	6	—	60	86.95	—	—	—	—	3	4.34
Late adopters (74)	1	9.09	70	94.63	1	1.35	2	2.70	—	—
Laggards (2)	—	—	—	—	2	100	—	—	—	—
Total (150)	7		135		3		2		3	



TABLE 3. Place of contact between change Agents and the Farmers

Adoptive categories	At the farmer's house		At the farmer's farm		In the office of the agent		In the public place		No place and no contact	
	No.	%	No.	%	No.	%	No.	%	No.	%
Innovative adopters (5)	1	20.00	—	—	4	80.00	—	—	—	—
Early adopters (69)	12	17.39	2	2.89	50	79.71	2	2.89	3	4.34
Late adopters (74)	5	6.75	1	1.35	64	86.48	2	2.70	2	2.70
Laggards (2)	—	—	—	—	2	100	—	—	—	—
Total (150)	18	—	3	—	120	—	4	—	—	—

TABLE 4. Knowledge about the village level worker and frequency of meeting between the village level worker and Farmer

Adoptive categories	Those who know the V.L.W.		Frequency of contact during last six months							
	No.	%	Very frequently		Frequently		Not so frequently		No contact and no knowledge of V.L.W.	
	No.	%	No.	%	No.	%	No.	%	No.	%
Innovative adopters (5)	5	100	1	20.00	2	40.00	2	40.00	—	—
Early adopters (69)	68	98.55	2	2.89	31	44.92	35	50.53	1	1.44
Late adopters (74)	68	91.89	3	4.05	23	31.08	42	56.75	6	8.11
Laggards (2)	2	100	—	—	—	—	2	100	—	—
Total (150)	143	—	6	—	56	—	81	—	7	—

*Initiating source of the contact between the farmers and the change Agent:* Some times the initiative to meet each other and discuss things might come from the farmers and other times from the change agents. Several factors like the economic, political and social level of the farmers, the interest shown by the extension personnel in their work and the like might determine the source of contacts between the farmers and extension agents. From Table No. 2 we can see that among the 150 respondents, 135 met the extension worker themselves followed by 7 respondents on the initiative of the extension agents, 3 respondents through friends, and 2 through leaders. All the 5 (100%) innovative adopters met the extension workers on their own initiative. Of the 69 early adopters, 60 (86.95%) met the extension personnel themselves followed by 6 (9.09%) by the initiative of the extension workers; 70 (94.63%) of the 74 late adopters met the extension workers by themselves, while 2 (2.70%) of them met through leaders, followed by 1 (1.35%) each through a leader or through self initiative. The laggards happened to meet the extension agents on rare occasions through their friends. However it is significant that as many as 135 respondents claimed that they had themselves initiated for the move contacting the extension staff.

*Place of contact between the change agent and the farmers:* One of the main reasons why the farmers generally meet the change agents might be to get their farm requirements from the block office. Apart from this, the farmers might also meet the extension personnel for advice at several places like the office of the extension worker, the home of either the farmer or the worker, the farm of the cultivator or at the public place (Grama chavadi). From Table No. 3, we can see that among the 150 respondents, 120 met the extension worker at his office, followed by 18 at the farmers house, 4 at the public place and 3 at the farmer's farms. Among the 5 innovative adopters, 4 (80%) met the extension agents in their office, and 1 (20%) met them at the farmer's house. Among the 69 early adopters, 50 (79.71%) had met in the office of the agents, followed by 12 (17.39%) at the farmers house, 2 (2.89%) at the farmers farms and 2 (2.89%) at the public place of the 74 late adopters, 64 (86.48%) met the extension personnel in the office of the agents, followed by 5 (6.75%) at the farmers house, 2 (2.70%) at the public place and 1 (1.35%) at the farmers farm itself. All the 2 laggards (100%) met the change agents in their office. It is seen that the most of the farmers met the change agents in their office only.

*Knowledge about the V.L.W. and frequency of meeting between the V.L.W. and the farmer.* The village level worker is an important worker at the village level to educate the farmers in their farming. He ought to be their guide, philosopher and friend. From Table No. 4 we can see that all the 5 (100%) innovative adopters, and all the 2 (100%) laggards had knowledge about the village level worker, followed by early adopters (98.55%) and late adopters

(91.89%). One (20%) innovative adopter was meeting the village level worker 'Very frequently' while it was so in the case of 3 (4.05%) late adopters and 2 (2.89) early adopters. 31 (44.92%) respondents among the early adopters were meeting the village level worker frequently, followed by 2 (40%) of the innovative adopters and 23 (31.08%) of the late adopters. The early adopters and innovative adopters might be meeting the village level worker 'Frequently' for getting information about their farming for they might have realised the importance of scientific farming. All the 2 (100%) laggards were meeting the village level worker 'Not so frequently' followed by 42 (56.75%) of late adopters, 35 (50.53%) of early adopters and 2 (40%) of innovative adopters. Here we observe that eventhough the laggards know about the existence of village level worker in the village, yet they were not meeting him quite frequently. However it is heartening to note that the village level worker had established contacts with as many as 143 respondents though the frequency of contacts varied considerably. It can be concluded that the innovative adopters and early adopters were meeting the village level worker often, where as the laggards and late adopters were not doing so inspite of the fact that they had the knowledge about his existence. So the village level worker ought to go to poor people, mostly comprising the laggards and late adopters, as often as possible and to suggest to them to take up improved methods of cultivation.

**Conclusion:** We can conclude from the study that the cultivators realised the importance of fertilizers and seeds which was evident from the larger number of contacts established by them with the block personnel for getting information about them, which means that the farmers realised the utmost importance of plant nutrients. As many as 135 respondents claimed that they had themselves initiated their contacts with the extension staff. The laggards happened to meet extension staff through their friends on the few occasions they had met them. Most of the cultivators met the extension staff at their offices. The innovative adopters and early adopters were meeting the village level worker more often than the laggards and late adopters inspite of the fact that the latter also know about the existence of village level worker. The above facts demonstrate the importance of the active contacts between the cultivating population and the extension staff in order to step up agricultural production.

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## Control of 'Dry Root Rot' - *Rhizoctonia bataticola* (Taub.) Butl. in Groundnut by Seed Treatment

by

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**Introduction:** 'Dry root-rot' or 'Root-rot' caused by *Rhizoctonia bataticola* (Taub.) Butl., is one of the most important diseases affecting groundnut. It is reported from Argentina that the disease caused by this pathogen is responsible for upto 70 per cent loss of the crop in humid season or in low lying areas (Macola, 1950). Infection occurs at almost any stage of development from seedling to maturity (Purss, 1962). However, infection at the pre-emergence stage is much more severe than at the post-emergence stage. It is generally found that the bunch varieties are more prone to the attack by this pathogen than the semi-spreading and spreading varieties.

It has been reported by many workers that this disease can be checked to a considerable extent and pod yield increased by pre-treatment of the seeds with suitable fungicides. In recent times many fungicides have been formulated exclusively for seed treatment and marketed. It was with the object of selecting the best suited fungicides capable of controlling groundnut seed-borne pathogens, field studies were conducted with ten selected fungicides at the Regional Agricultural Research Station, Tindivanam, Tamil Nadu during the three years 1966 to '68 and the results obtained are presented in this paper.

**Materials and Methods:** The short duration bunch variety TMV. 2, which is very susceptible to 'root rot' was selected for the trials, and ten seed-dressing fungicides were tested along with control - 'no fungicide' under field conditions to assess their relative efficacy in enhancing germination and minimising post-emergence root rot incidence. The commercial names of the fungicides together with the dosage applied and their active ingredients are furnished below:

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| 1. Agrosan GN - 0.25%    | Tolylmercury acetate - ethyl mercury chloride. |
| 2. Ceresan (Dry) - 0.25% | Phenyl mercury acetate.                        |

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