

THE ADOPTION PROCESS

A Dutch authority reviews recent research on the adoption of new farming practices and its implications for advisory work.

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ONE MAIN FUNCTION of an advisory officer is to induce his clients to adopt, at an early date, approved new practices developed through agricultural research. To do this effectively, the adviser needs to know as much as possible about why and how farm people adopt new practices.

Considerable research on the adoption process has therefore been done in the last twenty years, especially in the United States, India, Pakistan, Australia, the Netherlands, Colombia, and Costa Rica. This article summarizes briefly some of the findings of this research.

The Time Lag

Most farmers do not adopt new practices as soon as they hear about them. They wait and see. They may take some time to satisfy themselves

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that the practice will do well, not only on an experimental plot, but also under their own particular circumstances.

Research on several farm practices in the United States Midwest showed that the adoption process took the average farmer in that region about two years, i.e. from the time he first heard of a practice until he finally put it into use. Among more traditional-minded farmers it probably takes even longer than among these particular American farmers, who were accustomed to modernizing their farm operations.

Stages in Adoption

Researchers studying adoption have found it useful to divide the process into five stages:

1. *Awareness.* People get to know about the existence of a new practice, which they may often consider strange.
2. *Interest.* The farmer becomes personally interested and consequently desires more information about the practice.
3. *Evaluation.* The farmer mentally compares the possible advantages and disadvantages of the new practice over existing practices.
4. *Trial.* The farmer tries the practice on a small scale to gain confidence and experience with it under his own conditions.
5. *Adoption.* The farmer replaces an old practice by the new one or adds the new practice to his operations.

Clearly, farmers need different information at each stage of the adoption process. For example, it does little good to give those in the awareness stage detailed information on how to apply a new practice.

It is clear also that a farmer does not go through all five stages in numerical order every time he adopts a new practice. For example, when he suddenly encounters a plant disease or some other serious problem which requires immediate solution, the order of Stages 1 and 2 may be reversed. In other cases, e.g. the construction of new farm buildings, it may be impossible to try out the new practice before adopting it.

INFLUENCE OF INFORMATION ON FARMERS' DECISIONS

Farmers (%) who consider different sources of information as the most important as a means of (a) hearing about a new farm practice for the first time, or (b) deciding whether to adopt the practice. [1]

INFORMATION SOURCE	HEARING (a)	DECIDING (b)
1. Farm papers, radio, other mass media	70 %	4 %
2. Mass media in combination with some other source of information	5	[2]
3. Other farmers	11	43
4. Other farmers in combination with some other source of information	[2]	8
5. Local extension officer	3	20
6. Demonstration, experimental plots, meetings, etc.	6	12
7. Salesmen	3	4
8. Other combination of sources of information	2	3
9. Own experience	0	3
10. No answer	0	4

1. A.W. VAN DEN BAN, *Boer en Landbouvoorlichting; De communicatie van nieuwe landbouwmethoden*. Assen, Van Gorcum, 1963, page 98.

2. Included in "Other combination" (Item 8).

Sources of Information

Research in several countries has shown that different sources of information are in fact used by farmers during different stages of the adoption process. For example, a study in the Netherlands gave results which can be summarized in the table:

This table shows a striking difference between columns (a) and (b). Whereas 75 per cent of the farmers mention *mass media* (Items 1 and 2) as their most important sources of hearing about new practices for the first time, these media are unimportant in the decision-making stage of the adoption process. Instead, 87 per cent of the farmers at this stage cite *personal contacts and observations* (Items 3-7) as their major sources of information.

Results similar to those in column (a) have been found in several American studies on the first two stages of the adoption process. Similarly, the American figures for the third (evaluation) and fourth (trial) stages do not differ materially from those in column (b).

Experience gained at the trial stage is usually the most important factor influencing final adoption. It is not

yet quite sure how this process works with illiterate farmers, who lack access to farm papers and who may have no radios on which they can hear agricultural programmes. They may often be influenced by demonstrations which make them aware of new practices.

Whether or not such awareness is followed by adoption of the practice depends to a large extent on the effectiveness of other advisory methods used and on the similarity between the situation in which the practice is demonstrated and the farmer's own situation.

Limitations of Mass Media

The question arises as to why mass media merely arouse interest but do not convince people that they should adopt new practices. The fact that this is so can perhaps be illustrated most vividly by an example from outside agriculture.

In recent years, the press and other media have tried to inform people that smoking increases the chances that they will get cancer of the lungs. Yet, despite these warnings, many people continue to smoke. They do so,

undoubtedly, not because they wish to die from cancer, but because they enjoy smoking and find that it is hard to stop.

The easiest way out for these people is not to read articles on smoking and lung cancer. And, in fact, research has shown that heavy smokers do not read such articles as often as non-smokers do. Other smokers, who read these articles more or less frequently, are inclined to interpret them in such a way that they do not have to change their behaviour. For example, I myself say that it is perhaps bad to smoke three packs of cigarettes a day, but that the three cigarettes I smoke each day cannot make much difference. Therefore, I do not worry about the possible bad consequences of my smoking.

There is still another solution for smokers who read these articles: they can forget about them. This is not as difficult as it may seem. No one remembers *everything* he reads, and most people are more inclined to forget unpleasant facts than pleasant ones. Thus, more smokers than non-smokers probably "forget" that there is a relationship between smoking and lung cancer.

Similar processes of mental selectivity can make it difficult for an adviser to achieve an important change in farm management solely by the use of mass media.

The farmers who most need information will often not read advisory service publications and they will not attend advisory meetings. The opinions of such farmers about modern farming methods often deviate a good deal from the opinions of a scientifically trained adviser. They may be inclined to interpret articles written by advisory workers in the wrong way, and thus feel free to ignore them. Probably the more traditional farmers also forget such articles sooner, because it is difficult for them to relate new information to their present knowledge, or to accept the fact that their way of farming is inadequate.

These selective processes make it hard to reach traditional farmers except

through their informal contacts with other farmers or through radio and television.

Influence of Other Farmers

When one farmer meets another, they usually talk about farming. As the table above shows, such conversations have much more influence on decisions to adopt new practices than the farm papers and the radio have.

A farmer cannot select the information he wishes to receive from his neighbours and friends to the same extent as he selects information from the mass media. The people in a village often talk about the same subjects over and over again. This makes it difficult for one to forget or ignore these subjects. And when you talk with a neighbour, it is difficult to stop when the subject of conversation becomes a bit less interesting to you.

Also, if one is not understood, one will usually notice this from the reactions of the other. These reactions result in a discussion in which important points can often be made clearer than in a one-way communication from an author to the reader of an article.

In addition, the feelings between the partners in a discussion are usually more positive than those between the author and the reader of an article. Such feelings can have very important effects on beliefs and on behaviour. Quite often they help to make it possible to overcome resistance to change.

If discussions among farmers are so important, one can expect that the effect of an article or a lecture will depend largely on the informal discussions it arouses. Such discussions can increase the effect of an article or lecture, and also, of course, if they are unfavourable to the ideas of the author or speaker, they decrease the effects of his ideas.

It is difficult for a person to act against the general opinion of his group. If the general opinion among farmers is that a new method is

worthless, it is hard for one farmer in the group to test whether this is true. Advisory officers therefore need to direct discussions with their clients in such a way that conclusions are reached in favour of trying out new practices.

In the Netherlands, advisory officers often organize group discussions with 10 or 15 farmers in a farmer's home or in a public building. Farmers have become convinced that these discussions are important for them. There is also much evidence from research that group discussions under a well-trained discussion leader are more effective in changing behaviour than are lectures or even personal advice.

Informal Leaders

Naturally, when farmers talk with each other, or observe how their neighbours are farming, the words and the example of some carry more weight than those of others. As a rule, farmers who have confidence in the advisory service and frequent contacts with advisory officers are influential in their communities. However, this is more often true in communities that are quick to adopt new farm practices than in those which are more traditional. (A recent study in Colombia showed, for example, that in modern communities the informal leaders are younger than the average farmer, whereas in traditional communities they are older.)

This makes the task of an advisory officer in a traditional community rather difficult. Since he is not able to work intensively with all farmers, he can:

1. Work with those who seek his advice, who often do not have much influence in the community; or
2. He can try to work with the community's informal leaders and attempt to arouse their interest in his advice.

It is also possible to follow both of these courses to some extent.

Certain of the young farmers with modern ideas may become the informal leaders of their communities in a few years' time. The rapid changes now taking place in many rural communities include changes in leadership. It is important for the advisory service that the new leaders work to modernize their communities.

Another possibility is to help existing leaders with the problems they consider important. These problems probably will not be the ones considered most important by the advisory officer, but by assisting the leaders to solve them he can perhaps gain their confidence. Then he may be able to arouse their interest in the real problems of the community as he sees them.

Quite often the leaders of traditional communities do not realize that the social environment is changing and that corresponding changes within their communities are needed. They tend to resist such changes and thus add unwittingly to the difficulties of their communities.

Conclusion

There is, of course, no one best advisory method. To achieve general adoption of a new farm practice usually takes a long time. This adds to the necessity for careful planning of advisory programmes. One can first try to arouse interest in a new practice by the mass media, and then use group discussions and personal contacts with the informal leaders among farmers to obtain trial and eventual adoption of the practice.

The progress of any community depends heavily on the leadership it has. If the leaders are interested in cooperating with the advisory service, progress in agriculture will be much more rapid than if they are not. In traditional communities, it is therefore worthwhile for the advisory service to try to influence the leadership structure of the community. To do this in the right way, most advisory officers need special training in social science.