

# THE ORGANIZATION OF EXTENSION EVALUATION

by

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The extension officers have to select the extension methods they use from many possible methods. At present they make this selection mainly on the basis of common sense and experience. The basic idea of extension evaluation is that they would succeed better in selecting the best extension methods available for their objectives and their situation, if they would use scientific methods to evaluate the effectiveness of the different methods. I am convinced that such an evaluation could increase the efficiency of the extension services a good deal, just as agricultural research has greatly increased the efficiency of our farmers.

There are several good publications on the research techniques which can be used in extension evaluation. Nevertheless, to-date few evaluation studies have been made of the programmes of European agricultural extension services. Apparently the difficulties must be sought more in the organization of extension evaluation than in the available research techniques. For this reason this organization will be discussed in the present article. The organization of research has important and often unintended effects on the kind of research output we get. Therefore we will first have to discuss the kind of research output we want, before we can discuss the best manner to organize this evaluation.

## THE KIND OF RESULTS REQUIRED

The objective of extension evaluation is to provide solutions for practical problems. One difficulty, however, is, that every practical problem is somewhat different; an extension officer seldom has to take exactly the same decision twice. Unfortunately it is impossible to make a scientific evaluation of each extension programme in order to indicate guide lines for all decisions which extension officers have to make. Firstly, there are not enough research workers nor enough funds available for so much research. Secondly, the results as a rule

would not be available until the decisions had been made and they would therefore only be of value for similar decisions in the future.

This means that most of the results of extension evaluation have to be applied in situations which are different from the situations in which they were obtained. In order to be able to make the necessary extrapolation we should not only know what are the effects of a certain extension programme, but also *why* we obtained these effects. In other words, just as it is important for the farmer that there should be a good deal of basic agricultural research, so it is important for the extension service that basic research should be undertaken on extension teaching methods. It is necessary to develop sociology, psychology, public administration etc., because of the implications which such social sciences have for extension administration. For this reason I do not believe that a clear distinction can be made between evaluation and other kinds of extension research.

However, basic research is not sufficient. Most readers will be acquainted with the existence of a vast amount of theory in the social sciences, which has important implications for extension, but of which no use has yet been made. One reason is that so far we have little applied research which shows how these implications can be used in extension. The situation is similar to that in agriculture. Biochemistry and plant physiology are a great importance to agriculture, but only in so far as applied sciences like crop husbandry and animal nutrition make use of them to discover better farming methods. In fact, however, the better farming methods developed by these applied sciences are not only based on the theory of the basic sciences, though in the long run this is probably the most efficient way, but also on a systematic observation of the trial and error process. It is even possible that such systematic observation may contribute to the development of the basic sciences.

The basic sciences for extension teaching methods are probably less developed than those for agriculture in general. Therefore a systematic observation of the trial and error process which extension officers could use to improve their efficiency might be of more importance in extension than in agriculture. The development of better extension teaching methods from scientific theory, however, should certainly not be neglected. It may take more time, but we may expect much larger result from this kind of research. The German-American social-psychologist Kurt Lewin, was correct when he said: "Nothing is so practical as a good theory".

The implication for our present subject is that the ideal situation

is to have not merely one extension evaluation organisation in each country, but rather that extension research should be undertaken by different research organizations which strive for different degrees of direct applicability of their findings and different levels of contribution to scientific theory.

RESEARCH ON RESEARCH

A good deal of research on research has shown that the degree of direct applicability, or the theoretical relevance of the research output we get, depends to a large extent on the organizational structure in which the research is done. This is illustrated by the following table from Straus (1962):

RESEARCH ORGANIZATIONAL STRUCTURE WHICH MAXIMIZE IMMEDIATE UTILITY OF OUTPUT VS. PATTERNS WHICH MAXIMIZE CREATIVITY

| <i>Immediate utility</i>                               | <i>Creativity</i>  |
|--|--|
| 1. Within agency locus                                 | University or grant research   |
| 2. Vertical or hierarchical structure.                 | Horizontal or pie structure  |
| 3. Normal administrative supervision                   | Laissez-faire supervision  |
| 4. Well-established work teams                         | Individual research or ad hoc teams  |
| 5. Emphasis on project completion within specific time | Tolerance for delays and willingness to change the direction of research                                       |
| 6. Security, regularity, limited working hours         | Competitiveness, self-determined work and work load  |
| 7. Full-time research on a single project              | Variety of duties, especially those involving teaching and contact with scientists working on diverse problems |
| 8. Emphasis on teamwork and co-operativeness           | Toleration of the social and scientifically 'oddball'.   |

When we look at this table and consider that we desire research which has immediate utility for the extension service, as well as research which creates new scientific theories on extension, it is clear that extension research should be done in an organization for applied research as well as in a university. I am not sure whether the usual organizational structure of research within these institutions is always optimal for efficient research, but this is a question that I will not further discuss here. Other questions which remain to be answered are:

1. Should the applied research be organized within or outside the extension service?

2. Should the university research be done within agricultural universities and colleges only or should a part of it be done also in other universities or research institutions?
3. What role the extension officers themselves play in extension evaluation?
4. How can we start to evaluate extension work?
5. What part of the extension budget should be spent on extension research?

### *1. The organization of applied research*

In some countries the applied extension research is done by staff members of the extension service. In the United States e.g. nearly every State has its extension research officer while the Federal Extension Service has its Division of Extension Research and Training. In other countries this work is done by organizations which are completely independent from the extension service, like the Programme Evaluation Organization in India. Some problems can be studied more easily by an independent research organization than by an extension staff member. For example, it is rather difficult for the latter to question the adequacy of some of the decisions taken by the extension director, although these decisions may have a great influence on the effectiveness of the extension service. On the other hand, a staff member will be more aware of the kind of information which extension officers need for their decisions. Also, it is often easier for a staff member to gain some inside information and to communicate his findings in a smooth informal way to the relevant persons. Therefore the best way to organize this applied extension research depends on the willingness of extension people to accept outside criticism.

Within a period of eight years the Indian Government has built a community development and extension organization with over 60,000 staff members. Their top officials are well aware that normally they could not have expected to find this number of well-trained extension officers and experienced supervisors in such a short time. However, they had no time to delay the development of their country and therefore decided to learn from the mistakes which would inevitably be made. For this reason, every effort was made to discover these mistakes as soon as possible by means of the Programme Evaluation Organization, observations from experienced foreign specialists and good extension research in several universities. The

result is that, compared with India, Europe belongs to the under-developed areas in the field of extension evaluation and perhaps, in the future, also in the field of extension. In the Indian situation an independent research organization can do applied research effectively, but this is possibly not true in those countries where one believes it is known how an extension officer should teach.

Another advantage of the Indian organization over the American is that it gives more opportunities for relevant scientific research with fewer possibilities of the research officers being drawn too much into administrative or teaching responsibilities. In the U.S.A. e.g. the Division of Extension Research and Training could in my opinion more properly be named the Division of Extension Training and Research.

## *2. University research*

In all good European agricultural colleges and agricultural faculties within universities one accepts, I believe, that good teaching at the university level is only possible if it is combined with research. Therefore, in those colleges and universities where one likes to train extension officers, who know how to teach, extension research should be an essential part of the research programme. This does not mean, however, that this research should be restricted to these universities. The basic problem for the extension services is: "How to change the behaviour of people", but this is also a problem for many other institutions. It is a problem in education, industry, the army, the church, marketing, politics etc. This means that there are numerous university psychologists and sociologists, who have studied the basic problems of the extension service, but as a rule in different situations and often without knowing that their work is relevant for the extension service. If these people are induced to make a study of an extension programme, they can often make very valuable contributions from the experience they have gained in related research fields. This also stimulates the communication from the research findings in these fields to the agricultural extension service. Often a good way to tap this source of knowledge is to provide a research grant to an experienced research worker in a university department for the study of an extension problem. Sometimes such workers become so interested in this research problem, that they are able to continue the research from other funds after the extension grant has been exhausted. Their publications of research findings may also

interest other organizations for whom research is important to subsidize further research in this field.

For these reasons I am convinced that it pays an extension director to spend a part of his research budget on grants to universities which are willing to study his problems. Probably he will need a committee of some university professors who can advise him on the projects and persons to which he could give these grants in a profitable way.

### *3. The role of extension officers*

Some people, like Prof. Rheinwald, who has been OECD consultant on extension evaluation, term evaluation only as the work done by the extension officers themselves. Prof. Rheinwald calls the work done by research workers 'extension research'. The reason he has for making this distinction, is that in his opinion every extension officer should try to evaluate his own work in a crude way. The methods, however, which are described in the American books on evaluation, are usually so complicated that they cannot be used by an extension officer whose main task is and must be: extension teaching. Rheinwald's distinction is somewhat confusing, because the attempts of research worker to determine the effectiveness of a programme is usually called 'evaluation', as we have seen with the Indian Programme Evaluation Organization. Moreover there is no basic difference between the research techniques used by the extension officers and by the research workers, but only a gradual difference. Sometimes an extension officer will use quite simple techniques, like the American county agent who experimented with two different kinds of farm radio programmes. In order to discover the most effective kind his secretary asked everybody who called at the county agent's office during the day after the programme whether he had listened to the radio programme or not. When he found considerable differences between the two kinds used, he was satisfied with this discovery. At other times, however, the extension officers will use research techniques which are not much different from the techniques used by the research workers. This may happen when a staff member of a regional extension office gets a month or so to make a study of a part of the programme of that office.

Jahoda and Barnitz prefer to organize extension evaluation in quite a different way from Rheinwald, as is clear from their statement: "It is preferable to entrust evaluation to a person, who has no other

obligations to the programme"<sup>2</sup>. Their opinion is that an extension staff member, if he is any good at all, must be devoted to his job and convinced that his activities have social usefulness, whereas the evaluator must be prepared to discover that the programme is ineffective or even harmful. This is correct, but it does not mean that an extension officer is not able to discover that a small part of his programme could have been improved, e.g. that he has written an article in such a way that a lot of the people for whom it was intended do not understand it. Often it may be easier for him to accept this when he discovers it himself than when somebody else informs him. The main reason for evaluation by extension officers themselves is in my opinion not the contribution it will make to scientific theory, but the educational value which it has.

One way in which evaluation can have a large educational value for extension officers is that it compels them to listen to their clients. In modern extension methods this listening is probably more important than speaking. Evaluation can help the extension officers to change from being interested mainly in the subject matter they teach, to being interested in the people they serve. Listening to a random sample of their clients is especially important for those extension officers who do not regularly speak with ordinary farmers, e.g. extension directors and editors of farm journals. It is our experience in the Netherlands that extension officers are usually particularly interested in the effectiveness of their publications. As a rule they have some impression of the effectiveness of their farm visits, but often they have no idea at all of the number of people who read and appreciate their publications.

Another advantage of evaluation by the extension officers themselves is that it can give rapid answers to small problems for which no research workers or research funds are immediately available. It can even arouse an interest in financing a careful study of the problem, just as a small experimental plot of an extension officer can arouse the interest of the research institutes in a problem.

If we expect extension officers to do some objective evaluation themselves, we should give them some help with this job. As a rule they will need some training in evaluation techniques and it will be advisable that a social scientist acts as a consultant at least with their first attempts to evaluate.

#### 4. *How to start extension research*

The best way to start extension research depends to a large extent on the particular situation in the country. Therefore, I will only make some general remarks, but even these might not be applicable to all countries, just as some of the other points I have made in this paper may not be.

As a rule it seems advisable to start with a research project where one can be reasonably sure from experience in other countries that one will get valuable results. Also, preferably, the people in charge should be interested in the problem.

Often the best way to convince government leaders of the value of extension evaluation and research is to show them the results of a pilot study. Therefore such a pilot study should be made at a low cost. The cheapest labour available for this kind of work is as a rule a student who has to write a thesis. With the right kind of supervision such a pilot study might give valuable results, although one can never be sure of this with a student's thesis. When it is a poor thesis, it is not necessary to say too much about it!

Sometimes it will be possible to use somebody with more experience, e.g. one of the staff members of a university social science department, for a study in this interesting research field. Naturally, this is to be preferred, because then one may expect much more valuable results than can be expected from a student's thesis.

Usually it is better not to start with a large-scale study of several thousands of interviews, but with a small one of about 100. It is my experience that we first have to learn how to do this kind of research. One learns this better from a small study in which the research worker does a good deal of the interviewing himself than in a large study where he is busy supervising the interviewing and then studying interview schedules rather than people.

#### 5. *The research budget*

In my opinion it is as important for the extension service to have a sound knowledge of extension methods as it is for agriculture as a whole to have a sound knowledge of farming methods. Therefore, I believe that about the same proportion of the extension budget could be spent on research as the proportion of the gross agricultural production which is spent for agricultural research. Probably this would not have been true 30 years ago, because at that time the social



sciences had not developed the theory and research methods which have made good extension research possible. At this moment it is undoubtedly possible to do this kind of research.

Naturally, research in a new field has to grow gradually. In the Netherlands, for example, we now spend about 0.25 % of the extension budget on extension research, whereas about 1 % of the gross agricultural production is spent on agricultural research. Probably it would be profitable for the extension service to increase the amount they spend on extension research, but I believe that to increase the amount to 1 % of the extension budget would be too much at present, because it would be hard to find sufficient well-qualified research workers to undertake this research. In the initial stages it is better to grow a little more slowly than to appoint less-qualified research workers for extension research. They can do more harm than good for our research.

#### NOTES

<sup>1</sup> I am indebted to Mr. G. E. Jones of the University of Nottingham for his careful editing of an earlier version of this paper.

<sup>2</sup> The nature of evaluation, *International Social Science Bulletin*, Vol. 7, 1955, p. 364.

#### REFERENCES

This paper is based mainly on:

M. A. STRAUS, *Social Psychological Aspects of Extension Research Organisation*, National Extension Research Seminar, Division of Extension Research and Training, U.S. Dept. Agriculture, 1962, pp. 193-217. This paper gives an excellent summary of the research on the latent effects of research organization.

A good recent review of the results of extension research is:

E. M. ROGERS, *The Diffusion of Innovations*, Free Press, New York, 1962. This book gives a summary of over 500 studies in our field.

A brief summary of Dutch work is given in:

E. M. ROGERS & A. W. VAN DEN BAN, *Research on the Diffusion of Innovations in the United States and the Netherlands*, *Sociologia Ruralis*, Vol. 3, 1963, pp. 38-51.

A good example of basic research for the extension service is:

B. BENVENUTI, *Farming in Cultural Change*, Van Gorcum, Assen, Netherlands, 1961, xxxvi + 470 p.

The results which can be obtained from a grant to well known research workers are shown in:

F. E. EMERY & O. A. OESER, *Information, Decision and Action; A Study of Psychological Determinants of Changes in Farming Techniques*, Melbourne University Press, 1958, 132 pp.

The work of the Indian Programme Evaluation Organization is described in:

H. W. BEERS, *Programme Evaluation in India*, Rural Sociology, Vol. 25, 1960, pp. 431.  
Dr. Beers does not discuss the work done in Indian universities or the analyses made by foreign observers.

A clear discussion of the basic principles of evaluation is given in:

M. JAHODA & E. BARNITZ, *The Nature of Evaluation*, International Social Science Bulletin, Vol. 7, 1955, pp. 353-364, and of the evaluation techniques:

S. P. HAYES JR., *Measuring the Results of Development Projects*, A Manual for the use of field workers, Monographs in the applied social sciences, UNESCO, 1959, 100 p.  
An important problem with extension evaluation is to use the results of research.

The best discussion of the way in which this can be stimulated is in my opinion:

R. LIKERT & R. LIPPITT, *The utilisation of the social sciences in L. Festinger and D. Katz, Research Methods in the Behavioral Sciences*, 1953, pp. 630-638.

#### SUMMARY

##### THE ORGANIZATION OF EXTENSION EVALUATION

In order to enable extension services to change human behaviour most effectively it is necessary to develop the theory of human behaviour and to have an understanding of the ways in which this theory can be applied in the extension situation. Therefore a well-integrated programme of extension evaluation should include basic research as well as applied research. In order to get basic research the research worker should have much freedom and not too close ties with the action agency. For applied research on the other hand supervised team work and closer relations with action agency are more effective. Some of this applied research can even be done by the extension officers themselves. The listening to the farmers which this evaluation involves may have an important educational value for the extension officers. It is advocated that the money spent on extension research should bear the same relation to the extension budget as that spent on agricultural research bears to the gross agricultural production. The research techniques which can be used in extension evaluation are not discussed in this article.

#### RÉSUMÉ

##### ORGANISATION DE L'ÉVALUATION DES ACTIVITÉS DE VULGARISATION

Pour permettre aux services de vulgarisation de modifier d'une manière efficace le comportement humain, il est nécessaire de formuler la théorie de ce comportement et de savoir comment cette théorie peut être appliquée à l'exercice de la vulgarisation. Un programme bien intégré d'évaluation des activités de vulgarisation doit donc comporter

à la fois la recherche fondamentale et la recherche appliquée. Pour entreprendre la recherche fondamentale, le chercheur doit avoir toute la liberté d'action nécessaire et n'être pas lié trop étroitement aux activités de vulgarisation. Par contre, pour la recherche appliquée, le travail d'équipe contrôlé et l'établissement de relations étroites avec les vulgarisateurs, sont plus efficaces. Une certaine partie de la recherche appliquée pourra même être faite par les vulgarisateurs eux-mêmes. Des entretiens avec les agriculteurs intéressés peuvent présenter un grand intérêt éducatif pour les vulgarisateurs. Il est recommandé que les ressources consacrées à la recherche en matière de vulgarisation soient en rapport avec le budget de vulgarisation, comme les ressources consacrées à la recherche agricole sont en rapport avec la production agricole brute. Le présent article ne traite pas des méthodes de recherche qui peuvent être utilisées pour l'évaluation des activités de vulgarisation.

#### ZUSAMMENFASSUNG

##### ORGANISATION DER EVALUATION DES BERATUNGSDIENSTES

Wenn man den Beratungsdienst in die Lage versetzen will, menschliches Verhalten wirkungsvoll zu ändern, ist es notwendig eine Theorie des menschlichen Verhaltens zu entwickeln und das Verständnis dafür zu wecken, auf welche Weise diese Theorie in der Beratungssituation angewendet werden kann. Daher sollte ein gut integriertes Programm der Beratungsevaluation sowohl Grundlagenforschung als auch angewandte Forschung einschließen. Hinsichtlich der Grundlagenforschung sollte der Forscher viel Freiheit haben und nicht allzu eng mit der praktisch arbeitenden Organisation verbunden sein. Für die angewandte Forschung ist teamwork und engere Beziehung mit der Praxis wesentlich wirkungsvoller. Ein Teil der angewandten Forschung kann durch die Beratungsfachleute selbst durchgeführt werden. Die Unterhaltung mit den Landwirten, die einen wesentlichen Teil der Evaluation darstellt, kann einen bedeutenden erzieherischen Wert für die Berater haben. Es wird gefordert, daß die finanziellen Mittel für Beratungsforschung ungefähr in derselben Relation zum Budget für Beratung stehen sollen, wie die Mittel für landwirtschaftliche Forschung zur landwirtschaftlichen Produktion. Forschungstechniken, die in der Beratungsevaluation angewandt werden, werden in diesem Artikel nicht diskutiert.

## RESUMEN

## LA ORGANIZACION DE LA EVALUACION DE LA EXTENSION

Para que los servicios de extensión puedan modificar el comportamiento humano de modo más eficaz, es necesario desarrollar la teoría del comportamiento humano y llegar a una comprensión de las formas en que esta teoría puede aplicarse a la situación de la extensión. Por tanto, en un programa bien integrado de evaluación de la extensión deberá figurar tanto la investigación fundamental como la aplicada. Para conseguir la investigación fundamental, el investigador deberá tener gran libertad y no estar demasiado vinculado al organismo de acción. Para la investigación aplicada, en cambio, resultan más eficaces la labor supervisada de equipo y unas estrechas relaciones con el organismo de acción. Parte de esta investigación aplicada pueden realizarla incluso los mismo agentes de extensión. Escuchar a los agricultores, como supone esta evaluación, puede tener un importante valor educativo para los agentes de extensión. Se aboga por que el dinero gastado en investigaciones de extensión guarde con el presupuesto de extensión la misma relación que tiene el invertido en investigaciones agrícolas con la producción agrícola bruta. No se examinan en este artículo las técnicas de investigación que pueden utilizarse en la evaluación de la extensión.