IDENTIFYING MANAGEMENT ALTERNATIVES IN EXTENSION WORK WITH FARMERS

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THESIS

IDENTIFYING MANAGEMENT ALTERNATIVES IN EXTENSION WORK WITH FARMERS

by

Frank Leon Overley

AN ABSTRACT

Submitted to the College of Agriculture of Michigan State University of Agriculture and Applied Science in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

Department of Agricultural Economics

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Approved R. G. Wheeler

FRANK LEON OVERLEY ABSTRACT

Management teaching in the extension farm and home development program has not been generally well developed. The purpose of this study, therefore, has been to examine one phase more carefully. Two major divisions result: an explanation of solving management problems through identifying alternatives, and examining the use of this technique by county extension workers.

Management problems are solved through analysis and action. Rational decision-making is an integral part of this process. The essence of decision-making is choosing among alternatives. In a farm management context, an alternative describes some course of action with respect to the operation of the farm business. A clearly identified alternative would be described in specific and complete terms.

Judging from thirty-two cases examined, the technique of identifying alternatives as a basis for decision-making on farms seems to be imperfectly used. Alternatives clearly identified in discussions between farmers and county agents on important management problems seem to be relatively few in number. However, in cases where at least one active alternative was clearly identified, a course of action was initiated toward the solution to a management problem.

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TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

The Problem

It is generally accepted that for resources to be productive, they must be combined with the skill and efforts of man. This skill is known as management, but as yet it has few authoritative principles. It has evolved numerous techniques, or 'tools', but the real character of management is still imperfectly known.

Among the many persons engaged in managing farms, most have developed skill in some technique. Hence, they tend to have a bias for seeing management from a certain standpoint, in terms of their own skill, often lacking the ability to see it as a whole. Out of this need for training has evolved the extension farm and home development program.

Since the outset of this program, much has been written and said with regard to techniques for use by county extension workers. As yet, much remains to be done in developing these techniques to deal effectively with such an undertaking. The research reported herein represents an attempt to study one phase more carefully.

Management as Rational Decision-Making Growing Out of Problems

According to Johnson,[1] a management problem exists when there is a significant difference between the concept of 'what ought to be'--a value--and a concept of 'what is'--a belief. To solve a problem, the concept of 'what ought to be' can be changed to the concept of 'what is'. Another way to solve the problem would be to change 'what is' to the concept of 'what ought to be'. A third way of solving the problem would be a combination of the above two.

Problems are solved through analysis and action. Rational decision-making is an integral part of this process. So far, little has been said about the ability to make decisions as a part of good management. Yet, management is defined as a process involving making and implementing decisions under conditions of uncertainty. In order to focus attention on the importance of decision-making in management, Bratton[2] has referred to the process of management as follows:

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[1]Glenn L. Johnson, "The Interstate Cooperative Research Project on Decision Making in Farm Management," Proceedings of Conference on Values and Decision-Making in Home Management, July 4-6, 1955 (East Lansing, Michigan: Department of Home Management and Child Development, mimeo.), p. 41.

[2]C. A. Bratton, "Decision Making in Home Management," Proceedings of Conference on Values and Decision-Making in Home Management, July 4-6, 1955 (East Lansing, Michigan: Department of Home Management and Child Development, mimeo.), p. 30.

1. Recognizing a problem.
2. Setting a goal.
3. Planning the use of resources to attain a goal.
4. Carrying out the plan.
5. Evaluating the satisfaction in the results.

Bratton[3] explained, ". . . Following through with such a process is a series of decisions." Some decisions are required in recognizing a problem. A farmer may realize that something is wrong with his operation before he decides to make changes. Step 3 in the above process, of course, involves many decisions. The decisions of Step 4 make the plan work.

The five functions of the manager as listed by Johnson[4] also bring attention to the importance of decision-making. They are

1. Observation,
2. Analysis,
3. Decision concerning the problems under consideration,
4. Action-taking, and
5. Acceptance of economic responsibility.

Decisions are implied in and through all of them. Decision-making is truly the critical area of management.

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[3] Ibid.

[4] Glenn L. Johnson, Managerial Concepts for Agriculturalists (Lexington, Kentucky: Kentucky Agricultural Experiment Station), July, 1954, Bulletin 619, p. 12.

Management then occurs when there is some problem to solve or some choice to make. An important question now arises: Is all decision-making management? Gross and Crandall[5] emphasize that a kind of decision-making occurs in habitual behavior, but do not regard this as true decision-making.

> The "costs" in time and effort are too great to use true decision-making for every situation. It would be staggering to think of the number of decisions that would be required merely in dressing in the morning if habits were eliminated. . .

In addition, they stress the influence of habits in all areas of decision-making. They regard decision-making as a part of management when conditions have changed, requiring new patterns of living.

Farm people make decisions daily. It would seem that with so much practice, they would soon develop the skill to make decisions easily. However, from observation we know this is not necessarily true. Why then are some decisions easily made while others are so difficult they are never made? Part of the trouble may lie in the approach used toward problem solving. As Knight[6] suggests

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[5]Irma H. Gross and Elizabeth W. Crandall, Management for Modern Families (New York: Appleton-Century-Crofts, Inc., 1954), pp. 19-20.

[6]F. H. Knight, Risk, Uncertainty and Profits (Boston: Houghton Mifflin Company, 1921), p. 211.

> When we try to decide what to expect in a certain situation, and how to behave ourselves accordingly, we are likely to do a lot of irrelevant mental rambling, and the first thing we know we find that we have made up our minds, that our course of action is settled. There seems to be very little meaning in what has gone on in our minds, and certainly little kinship with the formal processes of logic which the scientist uses in an investigation. We contrast the two processes by recognizing that the former is not reasoned knowledge, but "judgment," "common sense," or "intuition." There is doubtless some analysis of a crude type involved, but in the main it seems that we "infer" largely from our experience of the past as a whole. . .

Another factor that contributes to the difficulty of a problem is uncertainty. Uncertainty arising from lack of knowledge about the present is an important consideration for managers; but with modern communications this uncertainty can easily be reduced. However, uncertainty arising from lack of knowledge about the future cannot be easily reduced. Johnson and Haver[7] have identified the following five categories of uncertainty:

1. Price structures and changes;
2. Production methods and responses (including weather effects);
3. Prospective technological developments;
4. The behavior and capacities of people associated with farm businesses;
5. The economic, political, and social situations in which a farm business operates.

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[7]Glenn L. Johnson and Cecil B. Haver, Decision-Making Principles in Farm Management (Lexington, Kentucky: Kentucky Agricultural Experiment Station), Bulletin 593, 1953, pp. 8-9.

Although these categories do not necessarily cover every kind of imperfect knowledge about the future, they do cover the important situations with which farm managers must deal.

Conflicting, or poorly defined, goals are other factors which contribute toward making problems more complicated. When there are conflicting goals, there is an additional problem of determining which of them should have priority. Some decisions may even eliminate the attainment of certain goals. Goals that are poorly defined provide fewer guide posts to follow in decision-making; the most important goals may never be pursued.

Environment can also contribute toward making problems more complicated. Natural factors in an environment can hinder or facilitate the ease with which a course of action can be executed. Social pressures in an environment can also influence decisions.

No doubt, there are other contributing factors for further complicating problems; but those problems that do not contain any of these limiting factors are more easily solved. However, many problems that do contain these factors can be simplified by isolating and eliminating as many of the trouble areas as possible.

Decision Making as a Matter of Choosing Among Known Alternatives

The prime character of decision-making is choosing among alternatives. Most farm management books refer to

decision-making to a limited extent in their discussions on choosing the right enterprises. Even though they infer choosing among alternatives, there is little on how to identify them. Johnson and Haver in their bulletin, Decision-Making Principles in Farm Management, discussed the knowledge situations which are basic to identifying alternatives. Gross and Crandall[8] have elaborated more fully on the place of alternatives in decision-making. They emphasize that the number of alternatives to be identified should vary according to the importance of the decision.

One would expect from the many writings in industrial management that there would be a rather thorough coverage of alternatives in decision-making. However, the subject is usually only mentioned in passing or not at all. Writers[9] in various fields have stressed the importance of having many alternatives from which to choose when faced with problems requiring decisions.

Alternatives are not always obvious; they must be developed from attention, at times, to little known facts. It is not always the most obvious alternative which is the best answer. Obscurity often disguises opportunity. The

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[8]Gross and Crandall, op. cit., pp. 20-23.

[9]H. L. Kingsley, The Nature and Conditions of Learning (New York: Prentice-Hall, Inc., 1946); G. W. Briggs, Studies in Management Techniques (London: Gee and Company, 1953).

ultimate basis for decision-making then is knowledge of a wide range of alternatives from which to choose. Skill must be developed in seeking out these alternatives.

Identification of Alternatives

In a farm management context, an alternative describes some course of action with respect to the operation of the farm business. This description is in reference to future operations. It is seldom if ever possible to describe a course of action perfectly because of changing conditions. With the passage of time, new factors may alter conditions and may make revisions necessary. An alternative may be described as being specific or vague, complete or incomplete, and active or passive. The first two pairs of terms cover a wide range of variations along a continuous scale.

An alternative is specifically described when certain actions are precisely and explicitly formulated. A vague alternative is indistinctly described and considered in general rather than definite terms. To expand the dairy herd is a vague alternative; to add ten more cows is a specific alternative.

Alternatives are completely identified when an entire combination of inter-related changes is explicitly specified. This requires an understanding of how the various segments of the farm business will be affected if the specified alternative is pursued. To increase a dairy herd by ten more cows would undoubtably require adjustments in labor, feed,

barn space, and milk handling capacity. It might also mean delaying the installation of a bathroom in the house or the purchase of new living room furniture. A completely identified alternative would specify each of these inter-related changes. Unless all such inter-related changes are definitely specified, the alternative has not been completely identified.

The results of changes may be immediately observed, or there may be a period between the time changes are made and the results observed. A changed feed ration for dairy cattle may immediately increase their milk production, whereas the effects of a changed tillage practice may not be observed until the crops are harvested the following year. A completely identified alternative would also specify when and for how long the changes would be effective.

The passive or active grouping describes the amount of action required by an alternative. Continuing without change may be described as a passive alternative for the future. An active alternative requires adjustments in one or more of the inter-related segments of the farm business.

Stages in the Decision-Making Process

The decision-making process is not ordinarily instantaneous, and several stages can be identified. However, some steps may be combined or eliminated; so it is not always possible to observe a complete sequence. The process of decision-making may be listed by stages as follows:

1. Discontent: A manager in the stage of discontent recognizes a problem but has no solution in mind.

2. Consideration of alternatives: This is the stage of analysis. The analysis can be with special interest, specific restrictions, or relatively complete elaboration.

3. Initial selection and verification: In this stage, a manager makes a tentative decision and seeks verification from other sources.

4. Tentative action and review: In this stage, the manager commits the necessary resources, usually on a small scale, to observe the results of an alternative.

5. Full commitment: This is the stage in which a manager makes a final decision and commits available resources toward attaining a goal.

These stages are somewhat similar in development to the stages in the process of acceptance of new ideas listed by Beal and Bohlen.[10] However, there is this difference: the above stages are taken from the standpoint of problems as they arise on farms, while the stages listed by Beal and Bohlen refer to the acceptance of ideas developed off the farm.

A manager in the stage of discontent recognizes there is a significant difference between what is and what ought to be. At this stage, the manager knows little about the problem beyond the fact that it exists. This awareness develops as a farmer observes he is lapsing into a lower socio-economic group. It may develop from a desire to

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[10] How Farm People Accept New Ideas, Reported in North Central Regional Publication Number 1 (Ames, Iowa: Iowa State College), November 1955.

progress into a higher socio-economic group. It may also develop from the desire to remain in the same socio-economic group with less effort in production. The stage of discontent normally develops gradually and provides the necessary motivation to make changes.

A manager advances to considering alternatives when he begins searching for workable solutions. This search may end with the identification of one alternative, or it may continue until several are identified. Special interest is present when active alternatives have been identified and compared with the passive alternative, or benchmark plan. Specific restrictions exist when managers refuse to consider certain alternatives because of such subjective factors as habits, customs, or beliefs. A farmer may encounter the problem of obtaining additional farm land but may not consider renting because of his belief that leases are not equitable or that he could not agree with the landowner on the cropping system. Relatively complete elaboration is characterized by identifying a number of the more promising alternatives clearly.

A manager reaches the initial selection and verification stage when he feels he has considered the important alternatives. At this point, he makes a tentative decision, but still lacks complete confidence in that decision and seeks additional confirmation of the solution. This confirmation or agreement is often obtained by having another individual go through the same mental process as the manager

to arrive at a solution. Another more satisfactory method of verification is to observe the results of such a course of action on a similar farm.

The tentative action and review stage occurs when a manager commits the necessary resources to observe the results of an alternative. If the results are not satisfactory, the manager may still change the course of action with a minimum loss of resources. There are alternatives, such as erecting a building, in which this stage would be omitted. However, a farmer may be in doubt about adding a certain livestock enterprise to his organization. His tentative action then may be to buy a few animals to observe the livestock enterprise in his farm organization. If the expected favorable outcome occurs, then the manager is ready for the stage of full commitment. At this latter stage, the manager would obtain the planned number of animals for the enterprise.

Objective of the Study

Farmers often lack the training to see management as a whole. Through the farm and home development program, extension has undertaken to provide this needed training on a more intensified basis. The objective of this study was to examine the ways in which county agents work with farmers on important management problems. This was an exploratory study, but in particular it seemed important to examine the following hypotheses:

1. Farm people often recognize the existence of problems and seek help in solving them without having the alternative courses of action clearly and fully identified.
2. County extension workers often recognize the existence of problems on farms, and seek to help in solving them, without identifying alternative courses of action clearly and fully.
3. An intimate knowledge of the farm business has a bearing on an agent's ability to help in identifying alternatives clearly and fully.
4. Farmers are more likely to make changes if they feel they have full information on alternative courses of action.

CHAPTER II

MATERIALS AND METHODS

Michigan has a wide variation of counties. The agriculture ranges from intensive enterprises, such as poultry and truck farming, to the extensive enterprises of grass, and beef cattle. The state has large sparsely populated areas of timber, much of which has been cut over and is low in productivity. There are other areas which are largely urbanized with most residents industrially employed.

The staff of the Michigan Cooperative Extension Service is adapted to the varying needs within the state. In the more sparsely populated areas, an agent may serve more than one county. In the urbanized areas, the extension program places more emphasis on home making and 4-H club work. There are also district specialists located in areas where the concentration of special enterprises warrants.

A modified case study approach was used. To observe the variations among agents and among farmers cooperating with each agent, a judgment sample of eight Michigan counties was chosen. These counties are located in general farming areas where dairying is the main livestock enterprise. (See Table I.)

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TABLE I. County extension staffs in Michigan and in eight sample counties[1]

Item	Entire State	Sample Counties
Counties by structure of agricultural staff[2]		
County agent only	54	3
Agent and one other worker	21	5
Agent and more than one other worker	8	0
Total	83	8
Number of county workers:		
County agents	76	8
Assistant county agents	31	4
Home demonstration agents	64	9
4-H agents	58	8
Other agents[3]	12	1

[1]As of February 1956

[2]Excludes home agents and 4-H agents

[3]Includes associate agents and district specialists

In three of the sample counties, the staff was composed of one agent responsible for all the agricultural work; in another county the agent was responsible for all the agricultural work except in one township where an associate was employed under a special program; in all four of these counties, the interviews were with the county agent. In the other four sample counties, the agricultural staff was composed of the county agent and an assistant agent

whose chief duties were to help farm families with farm and home development problems. In the latter counties, the interviews were with the assistant agents.[11]

The agents were asked to discuss some of the more important management problems with which they had been concerned. They were then asked to name the farmers having these problems. The interviewer explained that he possibly would want to interview the farmers later.

From these problems, four farmers from each of the eight counties were selected to be interviewed. The thirty-two farmers were selected on the basis of the importance of their problems. After the farmers and problems had been selected, the interview was directed toward learning the number of alternatives identified for each problem. As the agent recalled the alternatives, the interviewer tried to determine how clearly each had been identified.

To gather information from the agent about the problem, the interviewer asked the following questions:

> How long (have you) known (the farmer)? Frequency of contacts? When were you first approached with this problem?

To secure a list and clarification of the alternatives that were identified, the following questions were asked:

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[11]In working with individual families on important management problems, the assistant agents for farm and home development and the regular county agents seemed to be using generally similar techniques.

> When he (the farmer) first approached you with this problem, what were the factors he had considered that would influence his decision? What help or advice did you give? What additionl factors did your discussion bring out that would influence his decision?

The extent to which each of these alternatives were considered was determined by asking:

> What consideration did you give to each possible solution?

To learn the agent's knowledge of action being taken by farmers on the problems, two questions were asked:

> Does he (the farmer) now know exactly what course of action he wants to follow on this problem? and What action has he taken or will he take on this problem?

There is no perfect measure for determining an agent's knowledge of any particular farm, but there were several questions designed to gain some insight into the agent's information about the farms in this circumstance. These questions were:

> What are the acres owned? Acres rented? Normal acres of most important crops? Usual yield of these crops? What are the important livestock enterprises and the number of livestock in each?

Each farmer was later interviewed to obtain his viewpoint in regard to identifying alternatives. First, the farmer was asked to name the more important farm management problems which he had discussed with the county agent or the assistant agent. Out of this listing, the problem that had been discussed by the agent was pursued with the following question:

> Give in some detail what was involved in this problem?

To further clarify the problem, another question was asked:

> Before taking this problem to the agent had you made any tentative decisions regarding the course of action you would take?

To determine the alternatives and the extent to which he thought they were identified, the next questions were:

> What were the factors involved in this problem you had considered before taking it to the agent? In the agent's discussion, did he bring out additional factors that would influence a decision?

To get his further appraisal, this was asked:

> In what way was the agent most helpful on this problem?

Questions designed to determine the farmer's opinion of the success and satisfaction resulting from the counseling procedure were:

> What action did you take or will you take on this problem? Do you plan to consult the agent again about this problem? Do you feel that you now have all the available information needed to reach a decision?

The remaining questions were identical to those asked of the agent to obtain a check on the agent's knowledge of the farm business.

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CHAPTER III

FINDINGS FROM THE INTERVIEWS

Extent of Agreement Between Recollections of Farmers and Agents

Of the thirty-two cases studies, twenty-five farmers recalled and discussed the same management problems that their county agents had reviewed. The other seven farmers discussed problems which were different from the ones their county agents had reviewed. Therefore, the joint consideration of alternatives by agents and farmers could be studied for only twenty-five cases.

Extent to which Active Alternatives were Identified

For the purpose of this study, identification of active alternatives was the prime consideration. As previously defined, an active alternative requires adjustments in one or more of the inter-related segments of the farm business. To continue without change must also be recognized as an alternative, but of the passive variety. Improvements in a farm organization can only be made with changes, and this study is concerned with how changes are determined.

The farmers interviewed did not always appear to identify alternatives previously discussed as clearly as had their agents. At other times, however, the farmer's

identification was the clearest. The results of the interviews were grouped according to the clearness with which alternatives were identified by both the agents and the farmers. The three categories used in this grouping are clearly identified, fairly well identified, and only roughly identified.

An active alternative was classified as being clearly identified if it was specifically and completely identified--specifically enough for budgeting and completely enough to show the principal changes in inter-related segments of the farm business. An active alternative was classified as being fairly well identified if it was moderately specific and complete enough to show changes in some of the inter-related segments of the farm business. For an active alternative to be classified as identified only roughly, it was briefly mentioned but not discussed in either specific or complete terms.

Alternatives clearly identified in discussions between farmers and county agents on important management problems seem to be relatively few in number. Of the twenty-five cases in which the joint consideration of alternatives by agents and farmers could be studied, there were only thirteen cases in which one or more alternatives were clearly identified. Among these thirteen cases, there were three where two alternatives were clearly identified. Only one alternative was identified clearly in the remaining ten cases.

TABLE II. Extent to which active alternatives were identified

Identification of Alternatives	Number of Cases
Clearly identified	13
Fairly well identified	6
Only roughly identified	6
Total	25

Cases in which Two Active Alternatives were Clearly Identified

In the cases in which two active alternatives were clearly identified, the agents were well acquainted with the farming business. In all three cases, the agent knew the acres of land each farmer was managing. The agent also knew the livestock enterprises and number of animals in each. The agents reported fairly accurately the yields and acres of important crops. Crops and crop yields are usually not static on farms; therefore, it seems reasonable that there were minor differences when the agent's figures were compared with those of the farmer.

In cases where two active alternatives were clearly identified, the farmers were in the discontent stage of decision-making. Although their farm situations and problems varied, each of the three farmers in this grouping was at a point where he felt some changes were mandatory, or he

appeared to doubt the advisability of continuing in his current farming arrangement. Thus, conditions were present to motivate changes.

Farmer A and his father were farming together on the father's farm. The two men desired to reorganize a business that had been entirely controlled by the father. This reorganization was needed to provide an adequate net income for the two families by utilizing the labor of the two full-time operators. Two alternatives discussed by Farmer A and the agent were (1) to increase the dairy herd by twenty-five more cows, and (2) to convert the farm entirely to the production of cash crops.

Both the agent and farmer reported that replacement stock could provide the additional twenty-five cows. No new buildings would be required but extensive remodeling of existing buildings would be necessary. Enlarging milk cooling facilities would require additional expense. Adequate long term credit to finance these remodeling and equipment expenses must be secured.

The farm had been producing sufficient high quality roughage to meet the demands of the current dairy herd. An enlarged dairy herd would require a complete change in the crop rotation to provide the needed roughage. The use of present machinery and current methods of handling roughage would not maintain its quality in larger volume.

When thinking of eliminating the dairy herd and converting the farm to cash crop production, the farmer and

county agent reported that buildings were a major consideration. There would be quite an existing investment in buildings which would not be used in returning an income. However, the additional investment in machinery and other expenses requiring credit would be small.

The planned crop rotation included sufficient specialty crops to provide full employment, by work unit standards, for the two operators. However, much of the work would be seasonal and at times hired labor would be needed. In addition, specialty crops are a comparatively high risk enterprise with only seasonal income.

By the time the interviewer visited farmer A, he and his father had decided to proceed with caution toward gradual elimination of the dairy herd, and at the same time increase the planting of cash crops. They had purchased part of the additional equipment necessary to handle the crops.

Farmer B had accomplished an intermediate goal of getting well established in farming. Now, with several years experience in farming, he wanted to explore means of increasing net income. The operator was ready to consider means of enlarging or expanding his business. Farmer B confronted the agent with this problem without stating any preference for a particular enterprise.

The county agent and Farmer B discussed the possibilities of intensifying this operation either by increasing the dairy herd to thirty cows or by enlarging the business through purchasing 160 acres of additional land. To increase

the dairy herd, the operator would have to erect a new building to accommodate the increased number of cows and make it easier to meet grade A regulations. He would also need to buy a larger portion of the feed grain requirements. Existing equipment and methods of handling roughage could maintain the quality of the increased roughage production.

Cash crop production would become more important if he bought the additional land. The dairy herd would be held to its present size. The operator would be undertaking a substantial debt for the land, but could obtain credit from commercial sources. The investment in additional machinery would be minor when compared to the existing investment. In the busier seasons, some additional labor might be required; however, during the summer months, family labor could probably meet the requirements. Developing a desirable rotation that would also conform to government regulations might be difficult.

By the time the interviewer visited farmer B, the latter had bid on two tracts of land at an amount he determined from budgeting would be a fair price to pay for the expected returns. If farmer B is unable to buy the land at a price he considers desirable, he intends to increase the dairy herd to thirty cows.

Farmer C was a middle-aged man whose children had recently married and left home. He and his wife were still carrying debts incurred in raising and educating their family. With the age of usual retirement still several years

away but with his labor force considerably reduced, the farmer felt he should adjust his farming to the new family situation and still make provisions for paying off his debts.

Farmer C and the county agent discussed giving up 240 acres of rented land and selling the machinery necessary to tend it; with this action, the operator could pay off his debts and continue farming the reduced acreage. The second alternative was to reduce the amount of labor used in the livestock program, while continuing to operate the rented land.

By reducing the acreage farmed, the operator could probably increase the productivity of his own eighty acres by farming it more intensively. With this organization, all the crop land would be used to produce feed for the livestock; net income would be reduced from the loss of the cash crops. The operator would not be fully employed on the farm, but there would be opportunities for off-the-farm employment in near-by factories.

Farmer C could approximately maintain the size of the livestock program and reduce the labor requirements by adding ten more dairy cows and eliminating three other livestock enterprises. To increase the dairy herd, the farmer would have similar problems to farmer B. His main difficulty was that his buildings would no longer be adequate, and he questioned the advisability of taking on additional debt for new buildings at his age.

At the time of the interview, farmer C had decided he did not want to give up the 240 acres of rented land, and he did not feel qualified to handle the off-the-farm work. Therefore, he was planning to eliminate three minor livestock enterprises and add ten cows to the dairy herd. This would reduce the labor needs in the livestock program.

Cases in Which One Active Alternative was Clearly Identified

In the cases in which one active alternative was clearly identified, the agents were also well acquainted with the farming business. However, in these cases the farmers were in a more advanced stage of decision-making. Although their farm situations and problems varied, each of the ten farmers in this grouping was at a point where he felt some change was necessary. Each farmer had in mind one alternative he wanted considered before any decisions were made. Therefore, the problems were analyzed against the background of a special interest.

Two farmers' situations are discussed here to show the analyses of the problems as the farmers and agents outlined them in their separate visits with the interviewer. In the first case, a major management problem arose when all the dairy buildings on the farm burned. In the second case, the farmer's specific interest was not pursued after an additional alternative was introduced and thoroughly considered.

Farmer D was a middle-aged man whose dairy buildings had recently burned. The agent reported that he was confronted with the problem: should the farmer rebuild and continue dairying. Though the farmer had not made a decision to rebuild, he had reasoned that since he already had the cows, and his farming system was organized for dairying, strong consideration should be given to rebuilding and continuing to dairy.

Farmer D and the agent considered the types of buildings that the farmer could build. A loose housing type of unit would allow for greater flexibility in the number of cows handled as opposed to the stantion type barn the farmer had previously used. With loose housing, he could easily expand by five more cows for which he normally had sufficient feed. With the additional convenience of loose housing, five more cows would not require more labor than the number he had been milking. By rebuilding and continuing the dairy, no adjustment in existing machinery, crop rotations, or other farming operations would be needed. The advisability of making a large building investment when the farmer was at an advanced age and would probably not realize full utilization of the investment was not fully considered.

The county agent pointed out that the farmer could change to a livestock system that would require substantially less investment in buildings. Before giving this other alternative real consideration, the farmer dismissed it with the explanation that he would rather try cash crop farming

before attempting to develop the skill for handling other kinds of livestock. The agent and farmer reasoned that a complete reorganization of the farm, either for cash cropping or changing of livestock enterprises, would pose more problems than building the new dairy structures. Therefore, the counseling session ended with no attempts made to identify additional alternatives clearly.

At the time of the interviewer's visit with farmer D, the farmer was building a walk-through milking parlor and had engaged a commercial company to erect a pole building for dairy cattle shelter.

Farmer E confronted his county agent with the alternative of buying additional farm land. The agent soon pointed out that the farmer could increase his farming acreage by clearing tree stumps from 15 acres of land on his farm. Together they figured that the cost of removing the stumps would be substantially less than the amount the farmer would pay for additional land. The operator's machinery and labor were being under-utilized. The additional land could be put into cash crops to be sold at harvest time without affecting the livestock enterprises or the use of present buildings for feed storage.

The agent and farmer did not consider further the alternative of buying additional farm land. Before this alternative could have been clearly identified, further consideration of the cropping system would have been needed.

The tract of land available for purchase was larger than fifteen acres, introducing the problem of allotments.

Although only one alternative was considered clearly, it was different from the original alternative in which the farmer had expressed special interest. By the time the interviewer visited farmer E, the latter had removed all the tree stumps and had a growing crop on the land.

Cases in Which Active Alternatives were Identified Fairly Well

Two conditions characterized the cases in which alternatives were identified fairly well. These were (1) partiality by agents for one alternative, and (2) specific restrictions by farmers on the range of alternatives to be considered. Usually there was a direct conflict between the alternative to which the agents were partial and the specific restrictions placed on the solution of the problem by the farmers.

The agent may, without fully realizing it, base his suggestions to individual farmers on his own ideas of what are good practices or good enterprises rather than seek out all possible alternatives along with the goals of the farmer and his family. When personal motives are not considered, a plan may seem ideal without gaining the interest or acceptance of the farmer.

In these cases, it was generally not difficult to determine which alternatives had originated with the farmers. Their discussions centered around the restrictions they had

placed on the solutions to the problems. At times these restrictions originated beyond the control of the farmer, but more often they were due to values, goals, or habits.

In none of the six cases where alternatives were identified fairly well, did the interviewer find that the farmer had chosen a course of action to solve his problem. However, in most cases the agents seemed confident the farmers would follow through on a course of action that had been discussed during the counseling session. This may indicate they were thinking in terms of what the farmer 'should' do rather than in terms of what he might be expected to do. The conditions characteristic of this group are illustrated by the two situations which follow:

Farmer F was a young part-time operator with ninety acres of land and a factory job. He confronted the agent with the alternative of expanding the dairy herd from ten to twenty-five cows. Both the farmer and agent recognized this would mean building a new dairy barn. They also realized the increased labor requirement would prove burdensome to the farmer with his factory work. The agent doubted that the operator would be able to feed twenty-five cows and replacement stock on sixty acres of tillable land and about fifteen acres of pasture. The agent thought orcharding should be considered since most of the surrounding farms were in orchards.

At the end of the counseling session, farmer F had not reached a decision as to what should be done with the farm

or the dairy herd. Later, at the time of the interview, he stated he was still as far from making any decisions as he had ever been. He did not share the agent's enthusiasm for an orchard as he said it would not come into bearing until after his family was grown, whereas he would most need additional income while his children were being raised and educated. He still expressed a desire for more dairy cows. He was convinced he could get greater production from his farm through increased use of fertilizer, better varieties, and/or different farming practices. He was going to try to find out more about these possibilities from other sources.

Farmer G was a middle-aged man with two grown sons who wished to farm with him. He had spent several years dairying prior to World War II. When his dairy barn was destroyed by fire, he changed to the maintenance of a beef breeding herd, since he did not like dairying. He would consider only enterprises which traditionally involve low risk.

Farmer G's problem as he presented it to the county agent was how to maintain a beef breeding herd large enough to provide employment and income for himself and his two sons. A suggested alternative was that of increasing the size of the business by finishing the calves to slaughter weight and even buying additional feeders to put with his own calves. This was a traditionally high risk enterprise which the farmer would not consider. The agent brought up the advantages of dairying at every opportunity and tried to

point out how it would fit into the situation by utilizing the family labor. The agent pointed out that farmer G could maintain an economical size dairy herd on his available pasture and crop land. Even though the farmer expressed a personal dislike for dairy, the agent did suggest working through a farm budget with him to show that dairying was the most profitable livestock enterprise. At the time of the interview, farmer G mentioned that the agent had been trying to talk him into dairying, but he (the farmer) felt he had milked his share of cows during his lifetime.

It appears here that the farmer placed restrictions on at least some of the most obvious solutions. He was undecided as to what his course of action would be; for the present he was continuing without change.

Other members of this group posed problems with similar specific restrictions. Still other respondents felt the agents had given them all the available information necessary to solve their problems but they did not feel it was sufficiently complete for them to take any immediate action.

Cases in Which Active Alternatives were Identified Only Roughly

Little knowledge of the farm business by the agents and farmers in the advanced stages of decision-making are two conditions characteristic of the group that identified active alternatives only roughly. When the agents were asked questions about the farm business, they seemed uncertain and

often looked for notes to provide their answers. In most cases, they were unable to give definite information and frequently their answers did not agree with those given by the farmers.

The farmers may have previously considered other alternatives, but they only presented to the agent, for his verification, the course of action they intended to pursue.

The problems of the six farmers in this group were quite similar; however, each was unique in some respects. Two farmers' situations will be discussed to illustrate this group.

Farmer H posed the agent the problem that with the trend toward having larger dairy cattle (as he put it), the same number he had formerly cared for had now outgrown his stable facilities. The course of action he presented to the agent was to build a new dairy barn that could be used for the present herd and yet be sufficiently flexible to be used for beef cattle if he ever decided to substitute them for the dairy herd. The agent agreed with this course of action and provided a barn plan which could be used by the farmer. The agent suggested that the farmer might be able to use lumber from the old building and build during the seasons of low labor requirement on the farm.

At the time of the interview, farmer H had not started construction of a building; and stated that if he did, he would probably not use the plan provided by the agent. This statement raises the question of whether an acceptable course

of action had actually been found or even if it would be. The agent stated that it had been about three years since he had been approached with this problem and his contacts with the farmer averaged about once every two months. Farmer H felt that he knew the agent very well and did plan to consult him again with this problem. His explanation was that he did not have the necessary information to reach a final decision regarding the building.

Farmer I had experienced the same problem as farmer H; however, he had also doubled the number of cows in his dairy herd. The course of action farmer I had tentatively decided upon was to remodel an existing building into a pen-type barn and build additional shelter for the dairy herd. Again, the agent assisted by providing the building plans and cost estimates.

At the time of the interview, farmer I had carried through with this course of action, but expressed dissatisfaction with the outcome. He posed numerous management problems related to dairying. The operator's dissatisfaction was undoubtably intensified when he realized that he was fully committed to dairying when many neighboring farmers had recently sold their dairy herds. The farmer had considered with the agent this course of action for about four years. During these years, there had been about twelve contacts made with the agent each year.

In this group, the farmers who had not initiated changes expressed a desire to consult further with the agent.

On the other hand, the farmers who had made changes expressed doubt about the wisdom of their actions. This may suggest that only symptoms of the real problems had been discovered or considered. In farmer H's case, perhaps a combination dairy and beef barn would not make the desirable beef barn which he may really have wanted. Farmer I may have been concentrating too much on adjustments in the dairy herd. These questions might have been answered had more alternatives been clearly identified and compared.

Cases in Which the Problem Discussed by the Agent was Not Identified by the Farmer

In seven cases, the farmers and their agents discussed different problems. In some cases where the interviewer mentioned the topic introduced by the agent, the farmer did not acknowledge the agent's help.

There may be several factors affecting these discrepancies between the agent and farmer responses. It may be that in cases where farmers denied any agent help, the farmers had come to think of the agent's ideas as their own; perhaps also they had discussed numerous problems with the agent and had placed less importance on the one the agent discussed. It may also be a possibility that the agent and farmer in several cases were discussing the same problem but from different points of emphasis.

There were many more differences in conditions among the farmers and agents in this group than in the others. In

some cases, the agent had a good knowledge of the farm business, and was able to give the tillable acres, livestock enterprises and most important crops and crop yields with considerable accuracy. There was variation in the stage of decision-making at which farmers approached the agents, and in other aspects of the problems. Two cases will be discussed to illustrate.

Farmer J was a middle-aged man who had been dairying for several years; he expressed during the interview a dislike for dairying because of the high labor requirement. He was carrying a large debt that had accrued from the advancement in machinery requirements of present day farming, and was anticipating the need for an additional capital outlay for bulk cooling. He then was discouraged with the outlook for his present organization and was seeking a solution to his problem at the stage of discontent.

Farmer J noted that to quit dairying would mean he would probably realize a substantial drop in net income. With the size of debt he was carrying, he could not permit this to happen. An analysis of his farm business by extension specialists indicated that his optimum organization would be to increase the present twenty-five cow dairy herd to forty cows. He had serious doubts about adequately handling forty milk cows with the labor available to him and the current feed production of the farm. He was also concerned about the added expense of building additional barn space and thereby increasing his debt. His dislike for

dairying increased his reluctance to enlarge this enterprise.

The problem related to farmer J which his county agent discussed was that of farm drainage. The agent's discussion was entirely limited to the cost and financing of tile drainage. Whether the implications of the work the agent was doing with the farmer on drainage was (1) to help raise the farm's productivity for feed for the additional cows, (2) to allow the farmer to change from dairying to a sufficiently productive cash crop farming system, or (3) for some other purpose was not ascertained. However, the agent did state during the course of the interview that he considered dairying the most profitable enterprise in the county and he did encourage farmers to increase their dairy herds at every opportunity.

Farmer K was a young farmer who was well established in farming and wanted to expand or enlarge his beginning organization. He had been engaging in a variety of enterprises, but none of them had developed to a central place in his organization. He preferred cash crop farming to any type of a livestock program. Because of this preference, he was very interested in finding methods and verification for developing an economically sound cash crop system.

Farmer K's interest centered on obtaining additional grain storage through building. In his discussion, he emphasized the possibilities of government payments for farm stored grain and the capital investment in such storage.

The only other comments were on the design of the structure and the advisability of a grain dryer.

The county agent with whom farmer K had worked discussed the problem of which enterprise should be emphasized in the farm organization. In his discussion, he mentioned the alternatives of cash cropping, increasing the dairy herd, and developing a strong hog enterprise, all of which were identified fairly well. The grain storage problem which the farmer discussed with the interviewer may have been a factor considered as a part of the cash crop alternative which the agent discussed; however, this was not ascertained through the interviews.

CHAPTER IV

SUMMARY AND IMPLICATIONS

The technique of identifying alternatives as a basis for decision-making on farms seems to be imperfectly used, if one may judge from the thirty-two cases examined in this study. This technique is implied in most farm management publications, but as yet few writers show how to identify alternatives clearly.

Management problems are solved through analysis and action. Rational decision-making is an integral part of this process. The prime character of decision-making is choosing among alternatives. Three classifications used in characterizing the identification of alternatives are (1) specific or vague, (2) complete or incomplete, and (3) active or passive.

Alternatives are specifically identified when they are considered in definite rather than general terms. Alternatives are completely identified when an entire combination of inter-related changes are explicitly specified. A passive alternative is to continue without change, while an active alternative denotes some changes.

The decision-making process is not ordinarily instantaneous, and several stages can be identified. These steps in decision-making may be listed as follows:

1. Discontent,
2. Consideration of alternatives,
3. Initial selection and verification,
4. Tentative action and review,
5. Full commitment.

This study was particularly concerned with determining the number of alternatives identified and the extent to which they are considered when farmers and county agents seek to solve an important management problem. The use of this technique was examined by a modified case study approach. A judgment sample was taken of eight Michigan counties. In each county, four farmers were selected for interview. The alternatives that were identified by both farmers and county agents were classified as being either clearly identified, fairly well identified, or only roughly identified.

Though the study results are subjective, they seem conclusive in some instances and highly suggestive in others. Some of the main conclusions are as follows:

1. Active alternatives clearly identified in discussions between farmers and county agents on important management problems seem to be relatively few in number.

2. In cases where one or more active alternatives were clearly identified, the agents were well acquainted with the farm business.

3. In cases where one or more active alternatives were clearly identified, the farmers were at an early stage in decision-making.

4. The technique of identifying alternatives as a basis for decision-making can be successful in determining a course of action that will be pursued by farmers.

5. Two conditions characteristic of the group that could identify active alternatives only fairly well were (1) partiality on the part of agents for one alternative, and (2) specific restrictions by farmers on the range of alternatives to be considered.

6. When active alternatives were identified only fairly well, the farmers were left without a course of action in mind for solving their problems.

7. Two conditions characteristic of the group that could identify active alternatives only roughly were (1) little knowledge of the farm business by agents, and (2) farmers in the advanced stages of decision-making.

8. When the farmers did not seem to be discussing the same problem discussed by the agent, they may have been looking at the same problem from different points of emphasis.

These results may be due in part to the limitations placed on the solution of problems by the agents and their clientele. During the earlier stages in decision-making, farmers are either at the stage of discontent or are considering alternatives. In either of these stages, an agent can be of assistance while searching for a solution to a problem. These earlier stages in decision-making can be contrasted to the more advanced stages in decision-making. In the latter, it can be extremely difficult to get farmers to reason through additional alternatives thoroughly.

Additional limitations may arise from the agent's lack of knowledge regarding the farming business. When an agent does not have a thorough knowledge of the business, he is handicapped in trying to identify alternatives.

Furthermore, a full clarification of alternatives would be impossible.

Further limitations may develop when an agent shows partiality for an alternative. This may meet resistance from the clientele because (1) the alternative may be in direct conflict with personal values and goals of the farm family, and (2) the farmer may develop the feeling that he is not sharing in the decision-making process.

The results summarized have important implications for county extension workers who are trying to meet the objectives of the farm and home development program. The success demonstrated in the case study group in which active alternatives were identified clearly is an indication that this technique can be successfully used.

If the agent has a general knowledge of the physical characteristics of the farm, he should be able to gain sufficient knowledge of the farm business during the counseling session to assist in identifying a number of the more promising alternatives. When a particular organization appeals to an agent, he should compare it with other alternatives, taking into consideration the values and goals of the family while assisting them in the decision-making process. Partiality to an alternative is not necessarily undesirable unless it interferes with the full consideration of other possible alternatives.

When farmers are in the earlier stages of decision-making, they are ready for the agents to assist them in

identifying some of the more promising alternatives. However, when a farmer approaches an agent in later stages of decision-making, he may have an important management problem which he does not recognize. The problem for which he is seeking help is perhaps only the symptom of his real management problem. At this stage, the 'cure' given by an extension agent may not get at the real cause of the problem. To be successful in these cases, extension agents need to recognize the true situation and attempt to move their clients back into earlier stages in decision-making. There, farm operators can find the real problem and identify alternative courses of action from which to choose a solution.

Considerable educational work would probably be accomplished through the mass media approach in teaching the identification of alternatives as a basis for decision-making on farms. Through the use of newspapers, radio, and public meetings, the principles of identifying alternatives could be taught using examples. Typical problems on assumed farms could be discussed using several different alternatives which might become solutions. By this method, farm people could be made aware of the principles and led to think through their own problems.

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