DIFFERENCES IN PROGRESS AMONG FAMILIES IN AN INTENSIVE EXTENSION PROGRAM

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By

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AN ABSTRACT

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

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ABSTRACT

The objectives of this investigation were threefold: (1) to explain the wide differentials in progress which families in similar stages of the family cycle and with similar resource endowments have made within a given time period; (2) to determine the impact of an intensive extension program, the Michigan Township Program, upon the families involved, and the role it plays in promoting change; and (3) to obtain insights into the process by which change occurs on farms and in the goals and attitudes of the individuals involved.

Six families, exhibiting the desired homogeneity with regard to certain family and farm characteristics, were selected on the basis of the degree of progress they had made during the period in which the Township Program was operative. Three of these families were classed as "high-changers" in view of: (1) the significant changes that had been made in the organization of the farm business; and, (2) in the number of recommended farm practices which had been adopted. The other three families, exhibiting considerably less progress, were "low-changers."

Variables which were hypothesized as being of significance in explaining these varying degrees of progress were: (1) the amount and quality of participation in the Township Program by the family; (2) the attitudes of the family members toward farm life, the Extension Service, and the Township Program; (3) the goals and values of the family; (4) the formal and informal participation of the

family in the social activities of the community; (5) the attitude of the farm operator toward the use of credit; (6) the managerial processes employed by the operator; and, (7) the image or opinion which the farm operator holds of himself and of his operation.

The usefulness of the various hypotheses is indicated by the substantive findings of the investigation. All of the high-change families held generally favorable attitudes toward the Extension Service and the Township Program. Both high and low-change families, with the exception of one low-change family participated in the program. However, there was some evidence that the low-change families did so less intensively.

The challenging nature of the goals of the high-change group contrasted with the much more modest goals of the low-change group.

The high-change operators exhibited no aversion toward the use of credit in the operation. The low-change group used credit sparingly and in amounts no larger than to meet necessary production expenses.

Although the high-change families were relatively active in the social activities of the community, high social participation was not always associated with progress.

The impact of the program upon the high-change families was considered significant not only in promoting the changes which had occurred, but also in regard to the increased social interaction which the participating families experienced. This aspect of the program was valued highly by these individuals. The program may also have been of significance in developing managerial ability and leadership qualities in the participants.

Although three of the families made few changes during this period (1953-1957), such changes as had been made were attributed to the Township Program.

The process of change was recognized as a very elusive entity. It was suggested that this process represents the net effect of the interplay of a wide variety of positive and negative forces. The Township Program may, in this regard, serve as a very significant positive force in promoting change.

The study indicated the importance of selecting challenging and realistic goals. It was noted that the Extension Service may be of great assistance to families in this regard and should continue to develop programs which will encourage families to plan for the future.

The attitudes of the family members toward change, the Extension Service, and the use of credit was seen to be of significance in determining the progress that is made. The importance of attitudes in either inhibiting or promoting change suggests that extension personnel, in order to deal with these attitudes more effectively, may profitably utilize preparatory training in sociology and psychology.

Credit was seen to play a significant role in the progressive farm organization. With the assumption that this role will become increasingly important, the successful farm manager may well be the individual who is competent in its use. These considerations indicate that extension programs dealing with this topic may be extremely beneficial to farm operators.

The investigation served to emphasize the vague conception farmers may hold of the function of the Extension Service and the

reservations certain of them may have about its usefulness to them. It was noted that farmers become active participators in the Township Program only after it had proven its usefulness to them. It was suggested that extension programs may be more effective and reach a larger number of farmers if specific attention is given to developing that type of program which permits the farmer to recognize its potential to him.

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TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

The Cooperative Extension Service has been charged with the task of "diffusing among the people of the United States useful and practical information on subjects relating to agriculture and home economics and to encourage the application of the same."[1] Acting as the off-campus educational arm of the Land-Grant College System, the Extension Service has performed the valuable task of disseminating to farmers and homemakers useful information evolving from the research projects of the Experiment Stations.

While its role in previous years has oftentimes been largely conceived of as supplying information of a technical nature to the farmer and homemaker of the rural areas, its program in recent years has been substantially broadened in scope and purpose and today it is recognized as a vital and dynamic force in shaping the welfare of both rural and, to a lesser extent, urban society.

The objectives of the Extension Service have been stated at various levels of abstraction by extension administrators and personnel but the ultimate goal toward which the Extension Service strives is that of promoting the development of more fruitful lives and better

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[1] An Act to Provide for Cooperative Agricultural Extension Work. 38 Statute Law 372, 64th Congress, 1st Session, May 8, 1914.

living for all people.[2] A very basic facet of the extension philosophy has been aptly expressed by Bailey when he suggested the Extension Service had as its task that of teaching ". . . those who have a desire for information, and to create a desire for information in those who do not yet have the desire."[3]

Implicit in this statement is the assumption that not all individuals possess the desire for information which may be of value in their work as a homemaker or farmer. As extension personnel will readily verify, this assumption is quite realistic and encompasses a problem area which has plagued program administrators since the inception of the Extension Service. The extension worker of today must, in his role as an educator, also serve as a catalytic agent or a motivator who encourages the reticent and skeptical to participate in the activities of the extension program. The difficulty of this task is contingent upon a great many cultural, psychological, and social attributes of the individuals involved and it is these elements which have received the attention of those concerned with extension evaluation.

The Purposes of the Study

As an educational agency, the Cooperative Extension Service is vitally concerned with the production of changes in human behavior. Changes evolving from the educational process may be in the amount and kind of knowledge possessed by the individual; there may be changes in the reasoning skill or in the individual's physical skill;

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[2]David L. Kelsey and Cannon C. Hearne, Cooperative Extension Work, (Ithaca, New York, Comstock Publishing Company, 1949), p. 117.

[3]Liberty H. Bailey, as reported in Kelsey and Hearne, ibid., p. 33.

or, more ultimately, changes may result in the attitudes and philosophies of those involved.

It is these changes in human attributes, the factors responsible for change, and those inhibiting change that are of great interest to the extension evaluator and it is in this area that this study is couched. It is a well-known fact that farm families living in the same community and under similar family cycle and resource situations may respond quite differently to a given extension effort. On the one hand, certain of these families may react in a very positive manner to the program, becoming enthusiastic participators in the activities and putting into practice on their farms and in their homes the techniques and recommendations evolving from the program. At the other extreme may be found those families who, even though given the same opportunity for contact with the Extension Service, do not become active participants in the program nor do they show many significant changes in their farm business organization and in the farming techniques which they employ.

It is the two situations described above that represent the focal point of this study. Primarily, the objective will be to explain why families in similar stages of the family cycle and with similar resource endowments may exhibit widely dissimilar degrees of progress and advancement within a given time period. A second objective is that of determining the impact or role which an intensive extension program, the Michigan Township Program, may play in bringing about progress or change. Closely related to these objectives is an attempt to develop additional insights into the process of change, i.e., the "how" and "why" of change -- both in human

behavior and in the farming operations and farm organizations of those concerned. Thus, by what process and in what manner does the farm family respond to an extension effort which may eventually culminate in the adoption of a recommended practice or a reorganization of the farm business? What factors play on the thinking of the individuals involved and what forces encourage or inhibit the implementation of any action which is anticipated? What role does the Extension Service play in this process? These questions represent some aspects of the problem involved and will serve as guideposts in the study.

Admittedly the task set out to accomplish appears to be a formidable one. The insights which would be desired are highly conditioned by a complex of psychological and social attributes which are not always amenable to analysis in that no well-developed body of theory exists to guide the investigator.

It is not suggested that all of the questions presented above will be answered nor is it to be assumed that the objectives of the study will be met to the complete satisfaction of all. Rather it is hoped that the results of this undertaking will be of value to extension administrators, field workers, and program planners by providing some insights into the process whereby change occurs in farm organizations and in individuals as well as by isolating some of the elements which may tend either to encourage or inhibit change. Such knowledge would permit more effective extension programs to be developed and implemented in the future.

The weaknesses and strengths which appear in the present research design should permit researchers doing future work in this area to

develop more effective studies which will provide the needed insights. It is also believed that the study may be useful in pointing out related areas where additional research is required.

The Procedure of the Study

Although the classification of research studies by types is always somewhat arbitrary, a reasonably satisfactory categorization of an investigation may be done in terms of its major intent.[4] On this basis, a three-fold classification system is suggested: (1) as an exploratory or formulative study when its major purpose may be the formulation of a problem for further investigation, or the development of hypotheses, or the establishment of areas for further research; (2) as a descriptive or diagnostic study if it has the purpose of evaluating the characteristics of a particular situation; or, (3) as an experimental study when it has as its function the testing of hypotheses.

In view of the major objectives that have been stated previously, it becomes apparent that this study is of an exploratory nature. The nature of these objectives further suggests that a case method approach is most feasible in that such a technique, characterized by intensity of study and flexibility of approach, best enables the researcher to establish the interrelationships among the relevant variables.

Advantages and disadvantages of the case method. It has been suggested that the attitude of the research worker represents one of the

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[4] Marie Jahoda, Morton Deutsch, and Stuart W. Cook, Research Methods in Social Relations With Special Reference to Prejudice, Part 1: Basic Processes, (New York, Dryden Press, 1951), p. 28.

features of the case study approach which make it an appropriate procedure for the evoking of insights.[5] In the idealized situation his attitude should be one of alert receptivity, of seeking rather than testing.[6] Rather than limiting himself to the testing of pre-existing hypotheses, he should be guided by the features of the object being studied. His inquiry should be flexible, changing in direction as new information is obtained.

A disadvantage of the case study approach is its cost in terms of both time and money. This fact makes it imperative that the respondents be carefully selected. With the objective of obtaining insights into the relationships among the relevant variables, it becomes desirable to choose the respondents in terms of their likelihood of offering insightful contributions. On this basis a selective, rather than a representative group of farm families should be chosen.

Collecting the data. The bulk of the data utilized in the study was obtained through the use of a series of intensive or open-end interviews carried out by the investigator. It was believed that this type of interview would allow for the freest expression by the respondent and would not restrict the range of discussion to a specified number of topics if other avenues of conversation appeared

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[5] Ibid, p. 42.

[6] The response of the researcher may, in less than the idealized situation, also represents a problem of the case study technique. He may develop a false sense of certainty about his own conclusions which may tempt him to generalize unwarrantedly. Because of his close contact with a relatively small number of situations, he may be led to believe that an explanation relevant to these situations is valid in the entire "universe." This type of ad hoc reasoning represents an area of concern for the individual engaging in the case study technique.

to be profitable.

The approach used in obtaining opinions and attitudes was predominantly direct and straight-forward; the philosophy behind this approach is well expressed by Allport:

> If we want to know how people feel: what they experience and what they remember, what their emotions and motives are like, and the reasons for acting as they do--why not ask them? This is the simple logic of the introspectionist's position that commends itself to many in spite of the scorching displeasure of the behaviorists and objectivists.[7]

The Selection of the Farm Families

The Township Extension Program. During the past five years, the state of Michigan has undergone a unique experiment in the intensive approach to extension education. The Michigan Township Program is an experimental intensive extension program in which five extension agents are concentrating their efforts upon a limited number of farmers in five geographical areas throughout the state. Sponsored cooperatively by the Michigan Cooperative Extension Service, the W. K. Kellogg Foundation and the participating farmers in the five areas, the experiment offers rather unique opportunities for research by virtue of the detailed and complete records which are maintained on a random sample of these farms.

The wide variety of useful information contained in these records make them particularly valuable for use with the case study approach and it is on the basis of this information that six families were ultimately chosen.

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[7] G. W Allport, The Use of Personal Documents in Psychological Science, (New York, Social Science Research Council), No. 49, p. 208.

Although the possibility existed of choosing these families from any one of the five areas, or perhaps from a combination of two or more areas, the geographical area that was chosen as the locale for the study was selected on the basis of certain elements of homogeneity present within the township. Noteworthy among these were the soil type, the topography of the area, the type of farming practiced, and the fact that the same extension agent had remained in the township during the five-year period. The selection of this particular township thus permitted holding these variables constant within the township--an aspect of the research design which it was hoped would render the analysis more meaningful and comprehensible.

The locale of the study. The township chosen as the background for the study is located in south-central Michigan. The soils of the area are loams and sandy loams with a level to rolling topography. Dairy, hogs, and cash crops are the dominant enterprises.

A study of the past history of the area revealed that the farm people held widely differing attitudes toward the Extension Service. Some enthusiasm for extension work was evidenced by the aggressive action taken by a group of farmers and businessmen to obtain a township agent in the area, while others seemed quite reluctant in using the services of the county agent.

The process of selection. The procedure employed in selecting the families was to study the group of 42 farms which constituted the original sample drawn in the township and upon which detailed information was available. Of this group, 12 were chosen on the basis of the criteria discussed below. This group of twelve was then submitted to the township agent who selected the three farms which had undergone

the greatest change during the last five years as well as those three which had experienced the least change. This point is to be discussed to a fuller extent at a later time.

Homogeneity of the families. In addition to holding soil type, type of farming, and the extension personnel constant among all families, it was considered desirable to select those families which were relatively homogeneous in regard to certain other personal and farm business factors. The personal factors which served as criteria in selecting the families included (1) the formal education of the farm operator; (2) the years of farming experience possessed by the operator; (3) the stage in the family life cycle as determined by the age of the operator, the ages of the children, and the number of children; and (4) an extension participation index which measured the number of contacts the families had made with the Extension Service in 1953.

The operator's formal education. In attempting to explain differences in progress, the formal education possessed by the farm operator was considered to be of great significance. Because those managers with higher educations would feasibly be expected to show greater advances within a given time period than those with less formal education, it was considered desirable to select operators as nearly homogeneous as possible in this regard. Thus with all operators being similar in this respect there would be little possibility of attributing various degrees of progress to differences in education.

The operator's farming experience. Somewhat related to formal education is the farming experience of the operator. Thus, it might be argued that the inexperienced individual who exhibits an eagerness to

learn would be expected to show greater strides forward and more substantial changes in his organization than an older manager with a great deal of farming experience but who may possess a set of entrenched habits and techniques which were not susceptible to alteration. To preclude the possibility of explaining differences in progress by existing differences in the farming experience of the various individuals an attempt was made to select managers who were relatively homogeneous in this regard.

The stage of the family life cycle. The changing dependence of the children in the family as they mature will significantly affect the material needs of the family and will thus influence the behavior of the farm operator.[8] Thus the manager near retirement would be expected to react somewhat differently to a given situation or opportunity than would the young or middle-aged operator who had ahead of him a number of productive working years in which he could anticipate good health and rely upon family labor for assistance. These considerations suggested the desirability of choosing families who were similar with regard to the operator's age, ages of the children, and the size of the family.

Previous participation with extension. The family which had developed a number of contacts with the Extension Service, prior to the inception of the Township Program, could reasonably be expected to respond somewhat differently to such a program than the family with only occasional contacts. It is also suggested that the family having a close affiliation with the Extension Service would tend to be more progressive than the non-participating family. In view of these

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[8] Irma H. Gross and E. W. Crandall, Management for Modern Families, (New York, Appleton-Century-Crofts, Inc. 1954), pp. 114-116.

possibilities it was considered desirable to choose those families who had developed approximately the same number of contacts with this agency in years prior to the Township Program. Although the final selection exhibited some disparity in this regard, this element was not considered of as great a significance in influencing progress as those discussed previously and therefore did not warrant a new selection of families (see Table 1).

In addition to these personal characteristics which would serve as criteria in selecting families of the desired homogeneity, a number of farm business factors were also considered as elements which might influence progress and which therefore should be controlled as nearly as possible. Included in this group were: (1) the size of the farm in 1953 as measured by the number of tillable acres; (2) the financial position of the business, measured by the operator's 1953 net worth; and (3) the efficiency level with which the farm was being operated in 1953. This was measured by gross farm income per tillable acre and gross farm income per $100 expense.[9]

Existing differences in these farm business characteristics among the various operations might feasibly be expected to influence varying degrees of change. Thus, the manager operating a large farm (in terms of acres) might well be more progressive and more susceptible to the adoption of new techniques than his neighbor who operated on

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[9]The usual concept of technical efficiency refers to the ratio of useful output to input. The difficulty of computing these components for a modern farm organization usually results in the use of some measures of efficiency which are less satisfactory and less complete. Thus while it is recognized that land and cash expenses are only two of the inputs of the productive process, the measures herein employed do permit some comparability of the various organizations in this regard.

a smaller scale. Likewise a large net worth might permit changes in organization which, because of risk considerations or lack of capital, would not be undertaken by the operator with a relatively small net worth. The measures of efficiency which are used would also be desired as nearly homogeneous as possible among the various farms.

Because one of the fundamental purposes of the investigation was to study the process of change (both in individuals and on the farms involved), it was hoped that the farms which had been selected would include both "high-changers" and "low-changers".[10] To determine the degree of contrast which was present among the 12 farms the list was submitted to the township agent whom it was assumed would be more familiar with the changes that had occurred on all the farms involved than any other individual. He was asked to examine the list of farms carefully and then select the three farms which had made the greatest number of changes as well as the three farms which had made the fewest changes. His comments indicated that such choices were relatively easy to make suggesting that a good deal of contrast, with respect to change, had been captured in the group of 12 farms.

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[10] Change, as used in this context refers primarily to changes in farm organization and farm practices. Changes in attitudes toward the Extension Service and the Township Program are also of interest.

In studying the various degrees of progress which the families have made it would appear that the criteria for selecting "high-changers" and "low-changers" should be those elements which would serve as the determinants of progress, namely the socio-economic status, net farm earnings and net worth. The procedure used here of selecting the families on the basis of changes in farm organization and farm practices was necessitated by the fact that at the time of selection no information was available as to the changes in farm earnings and net worth. An underlying assumption is that the adoption of recommended farm practices and the reorganization of the business according to recommended principles will ultimately result in higher net farm earnings, net worth, and socio-economic status.

Summarizing the Differences in Farm and Family Characteristics Existing Between the High-and Low Changers

Although the six families were selected on the basis of homogeneity of the various farm and family characteristics which might possibly affect the degree of progress each makes, certain disparities were yet present between the families which had undergone considerable change and those which had undertaken less change (see Table 1). It appears that a thoroughgoing analysis should consider these elements in reaching conclusions even though presumably they are not the dominant factors responsible for the differences in progress. These will be discussed here to further clarify any differences which do exist.

Family attributes. A study of the education of the six farm operators indicates that very little difference exists between the high and low changers, with regard to this variable. All operators had a minimum of 12 years of formal education with one high change and one low change operator also attending a short-course session at the state college.

Of some significance perhaps is the fact that the low-change operators were older than the high change individuals and consequently, possess a greater number of years of farming experience. In addition the low-change families have slightly larger families with the children being somewhat older.

With regard to participation in extension activities prior to the establishment of the Township Program it appears that the low-change families may have had a greater number of contacts with that agency than the high-change families. It is to be noted in this

regard that Family B had no such previous contacts and Family A had relatively few.

Although no definite data exists as to the operators' participation in the formal organizations of the community prior to the Township Program, the figures available in this regard for 1955 suggest that the high-change operators may have been slightly more active than the low-change individuals. Operator C, during that year, had a social participation index of 305 as compared to a high of 136 for any low-change operator.

Farm Characteristics. It is in this group of variables that possibly the most significant differences exist between the high and low changers. These differences will be carefully considered and should be kept in mind when reaching any conclusions concerning reasons for the differentials in progress.

Of some importance may be the disparity existing between the number of tillable acres operated by the high and low-changers. The high-changers had larger farms in every case with the average number of tillable acres for the high-changers being 181 acres as opposed to 105 acres for the low-changers.

The net worth figures showed less disparity when contrasting high with low-change farms. In fact, Operator B (a high-change farmer) had the smallest net worth of any of the six families being considered. The average net worth for the low-change families was $25,200 as contrasted to $25,600 for the high-changers.

With regard to efficiency of production at the outset of the program the high-change families were somewhat more efficient as reflected both by the gross farm income per tillable acre and the gross farm income per $100 expense figures.

TABLE I

FAMILY AND FARM BUSINESS CHARACTERISTICS OF THE SIX FAMILIES AND THE RANGE OF THESE VARIABLES OF THE 42-FARM SAMPLE FROM WHICH THESE FAMILIES WERE SELECTED

	Family Characteristics						Farm Business Characteristics			
Family*	Education of Operator	Years of Farming Experience	Age of Operator	Ages of Children	Number of Children	Extension Participation Index	Tillable Acres (1953)	Net Worth (Dec. 31, 1953)	Gross Farm Income Per Tillable Acre (1953)	Gross Farm Income Per $100 Expense (1953)
A	12	13	36	8,6,3,1	4	28	139	36,000	79	214
B	12	7	30	6,4,3	3	0	186	13,500	61	180
C	12	7	33	3,2,1	3	88	220	27,300	61	154
X	12	16	40	15,9,7	3	27	104	31,500	51	100
Y	12	15	36	13,11, 9,5	4	85	129	24,800	48	155
Z	12	13	39	15,13, 10,8,2	5	53	83	19,300	64	179
Range of Sample										
	8-13	7-40	28-68	1-43	0-6	0-99	59-291	7,400-67,500	48-95	100-214

*Families A, B, and C are "high-changers; families X,Y, and Z were classed as low-changers.

CHAPTER II

THE CONCEPTUAL FRAMEWORK OF THE PROBLEM

The conceptual organization of the problem involves three categories of variables. The first of these--those which were relatively homogeneous among the families at the inception of the program--have been discussed previously. A second group of "effect" variables attempts to measure the advancement and progress which the families have made over the five-year period. Tying these two groups of variables together are a group of "explanatory" variables which attempt to explain why three of the six families have progressed a considerable distance up the financial and social ladder and why the other three have made less significant advances in this direction.

The Effect Variables

Included in this category are two types of variables--the first are economic; the second may be classed as social.

The economic variables. The economic variables are those which measure the financial progress of the families involved. Satisfactory measures in this regard are the net farm income and net worth figures. By comparing the 1957 figures with those for 1953 a fairly realistic picture of the financial growth of the families can be obtained.[1]

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[1]A note of explanation is required in regard to the time period included in this investigation. The Michigan Township Program got underway in the area herein considered on January 1, 1954. It was to continue

The social variables. The social elements involved are considerably more difficult to quantify but some measure of progress is possible by studying the level of living enjoyed by the families in 1953 and in 1957, by determining the extent of family participation in the civic and social affairs of the community during these years, and by attempting to develop some insights as to the welfare and satisfaction which the families experience from their present way of life.[2]

The Explanatory Variables

The variables which are hypothesized as being of significance in explaining the differentials in progress realized by these families are (1) the amount and quality of participation in the activities of the program by the family; (2) the attitudes the family has toward the program, toward the Extension Service, and toward farming as a way of life; (3) the goals and values held by the family; (4) the formal and informal participation of the family in the activities of the

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for a period of five calendar years, or until January 1, 1959. Because this study was done during the spring and summer of 1958, much of the data and the observations are relevant to this four and one-half year period which had elapsed since the program was begun. The financial data which have been gathered during the course of the study are applicable to the years 1953 and 1957. Net worths are considered as of Dec. 31, 1953 and Dec. 31, 1957.

[2]The terms "level of living," "plane of living," and socio-economic status" are often used loosely and interchangeably. While plane or level of living can be used synonymously, socio-economic status differs from these two in being more inclusive. Level of living is defined to include cultural and material possessions which contribute to the well-being or satisfaction of the family while socio-economic status would include these two components plus a third, social participation. These definitions are derived largely from J. C. Belcher and E. F. Sharp's A Short Scale for Measuring Farm Family Level of Living: A Modification of Sewell's Socio-Economic Scale, (Oklahoma Agricultural and Mechanical College, Technical Bulletin No. T-46, Sept., 1952), p. 6.

community; (5) the farm operator's feeling toward the use of credit; (6) the managerial processes employed by the farm operator; and (7) the image or opinion which the farm operator holds of himself and of his organization.

Amount and quality of participation in the program. If the assumption is accepted that the activities of the Extension Service are those which will enable farm families to enhance their welfare then it seems quite probable that the active participators will be the high changers with respect to farm earnings and family welfare.[3] This statement is borne out by the findings of Beal and Bohlen who suggest that participation in adult extension programs is positively associated with the adoption of recommended farm practices which then presumably will increase farm earnings.[4]

Attitudes toward the program, the Extension Service, and farm life. The attitude the families hold toward the Township Program is considered of great significance in explaining their response to such a program. A negative or hostile attitude would appear to be one of the greatest barriers to program acceptance and to utilizing the information which evolves from it. On the other hand, the family who feels the program may have a worthy contribution to make is likely to take an active part in the activities of the program.

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[3]A qualification of the above statement is in order. A "non-participating" family could possibly rely very heavily upon sources of ideas and information other than the Extension Service and as a result, show considerable progress during the five-year period. A possibility existing here is that the non-participators may glean many valuable ideas from their neighbors who are active in the program and, as a result, adopt these ideas without ever coming into more than passive contact with the program.

[4]G. M. Beal and J. M. Bohlen, How Farm People Accept New Ideas, (Special Report No. 15, Agricultural Extension Service, Iowa State College, November, 1955), p. 8.

The family's attitude toward farm life may also be of significance. It seems reasonable to assume that the family who is dissatisfied with farm life and who may dislike the long, often unrewarding, hours will not make the advance and progress that comes with enthusiasm and interest in farming as a vocation.

The significance of ideas, values, and sentiments to which the farm family subscribes in explaining change is well brought out by Wilkening who suggests that the acceptance of innovations in agriculture is a function of the social relations and of the ideological system (ideas, values, and sentiments) of that family.[5]

Goals of the family. It is hypothesized that the goals possessed by the farm family are important determinants of the progress which that family will make. The family which has a clear, concise picture of its objectives and how it is to achieve them will realize these objectives more fully and in a shorter duration of time than will the family which does not possess this attribute. The importance of establishing realistic goals is also emphasized by social psychologists. Lewin's comments on this point are particularly helpful:

> A successful individual typically sets his next goal somewhat, but not too much, above his last achievement. In this way he steadily raises his level of aspiration. Although in the long run he is guided by his ideal goal, which may be rather high, nevertheless, his real goal for the step is kept realistically close to his present position. The unsuccessful individual, on the other hand, tends to show one of two reactions: he sets his goal very low, frequently below his past achievement--that is, he becomes intimidated and gives up reaching out toward higher goals--or he sets his goal far above his ability. This latter conduct is rather common. Sometimes the result is a gesture-like keeping

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[5] Eugene A. Wilkening, "A Socio-psychological Approach to the Study of the Acceptance of Innovations in Farming," Rural Sociology, Vol. XV, (December, 1950) pp. 352-364.

> up without serious striving; it may at other times mean that the individual is following blindly his ideal goal, losing sight of what in the present situation is possible. To develop and maintain goals, and at the same time, to keep the plan for the next action realistically within the limits of what is possible, seems to be one of the best objectives for and a criterion of high morale.[6]

Formal and informal participation in the community. This variable is considered to be of importance for two reasons. First, it can be hypothesized that an important by-product of this intensive extension approach is the increased social interaction which participants of the program experience. The extent to which this is true can be determined by comparing the social participation index for 1953 with the index for 1957.

A second important aspect of social contacts are their value as a medium of information useful in operating the farm. Many of the formal organizations which farm families are affiliated with are not only educational in themselves but present the opportunity for informal discussions relating to the farm. It is highly probable that certain of the ideas and techniques so acquired will ultimately be utilized in operating the farm.

In this regard Beal and Bohlen state, "Participation in general farm organizations and farmer cooperatives is associated with early adoption of new farm practices.[7]

Attitude toward credit. Modern agriculture is characterized by rapid technological advance, increasing farm size, and a substitution of

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[6]Kurt Lewin, "Time Perspective and Morale," Civilian Morale, Edited by Goodwin Watson, (New York, Renal and Hitchcock, 1942), p. 59.

[7]G. M. Beal and J. M. Bohlen, op. cit., p. 8.

machinery for labor. With this comes increasing capital investment. In such a situation few farmers find it possible to keep abreast of these changes without resorting to a considerable use of credit.

In view of this it is hypothesized that the attitude of the farm operator or owner toward the use of credit will significantly influence the changes he makes. Therefore, the individual who sees the wise use of credit as an important necessity in his farm business can be expected to make greater advances than the individual who is reluctant to use credit.

It is recognized that these elements hinge upon the value structure of the individual. With change usually comes risk and this may be something the individual who places a high value upon security may be reluctant to indulge in.

Managerial processes employed by the operator. This variable is particularly troublesome to examine in that little is known as to what constitutes good management nor how it can be measured and evaluated. It is, however, considered to be of utmost importance in explaining progress. In this regard it is hypothesized that the individual possessing the largest quantity of this elusive entity will be the individual who realizes the greatest advances during the five-year period.

A slight digression is required at this point to elaborate upon the technique devised to evaluate managerial ability. The problem encountered here resolves itself into developing a technique for measuring this ability, not of course, in cardinal numbers, but rather in ordinal terms. This, as has been suggested, proves to be a difficult task--a task which has been attempted by some but apparently completed

to the satisfaction of few.[8]

It has been suggested that decision-making is the crux of management.[9] Gross and Crandall state that "management occurs when there is some problem to solve, some choice to make.[10] They suggest that decision-making includes three successive steps. These are: (1) seeking alternatives; (2) thinking through the consequences of these alternatives: and (3) selecting one of the alternatives.[11]

Using this line of reasoning it was conceded that a feasible approach to studying the management process was to present the farm operator with an hypothetical situation in which he was asked to reach a decision. It was suggested that he elaborate to the investigator as to how he might proceed in such a situation, discussing the alternatives he would consider as being of significance as well as other elements of the situation which he deemed as being of importance in "making up his mind." The assumption underlying the use of this technique was that the good manager would be more aware of the various alternatives possible in such a situation and would possess a greater knowledge of the consequences of these alternatives.[12]

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[8] Cf. F. J. Reiss, "Measuring the Management Factor," Journal of Farm Economics, XXXI (Nov., 1949), pp. 1065-1072.

[9] Irma H. Gross and E. W. Crandall, op. cit., pp. 19-35.

[10] Ibid, p. 19

[11] Ibid, p. 20.

[12] An inherent danger of this technique is that certain of the farm managers would be more vocal in their reply or more adept at expressing themselves thus giving the impression that they possessed greater capacity for sound decision making. A second difficulty was that the hypothetical situation which was presented might be one the individual had faced in the not-too-distant past and had thus done some thinking about alternatives and consequences. To circumvent this possibility if it presented itself the operator would then be asked to state the most

The image held by the operator of himself. Important as may be good managerial ability, a ready access to pertinent sources of information, an open-minded attitude toward the use of credit, and the other variables previously discussed as being possible explanations for progress, motivation must also exist to utilize these attributes. While motivation has been the subject of students of human behavior for many years, still relatively little is known about it other than that it is a complex factor conditioned by a number of personal and social forces.

A study by Hess and Miller indicates that this element is a most important variable in explaining the actions and success of farmers.[13] In their investigation one of the factors which influenced motivation was considered to be the operator's conception of what constitutes a good output for his resources. Hess and Miller state that the individual ". . . may not be motivated because he believes, correctly or incorrectly, that his present level of performance is quite satisfactory when compared with that of other operators in the community."[14]

A hypothesis used in the Hess-Miller study was that a farmer's rating of his performance, as compared with that of his neighbors influences his achievement level.[15] Thus, if a person feels his performance is much higher than it actually is compared with that of

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important decision he had made within the five-year period and then reconstruct the process by which he had reached that decision.

[13] C. V. Hess and L. F. Miller, Some Personal, Economic and Sociological Factors Influencing Dairymen's Actions and Success (Pennsylvania State University Bulletin 577, June 1954), pp. 20-25.

[14] Ibid., p. 20.

[15] Ibid., p. 22.

his neighbors, he may be dissuaded from exerting himself toward higher levels of achievement. This thinking was incorporated into the present study by asking the operator to rate his ability as a farm manager with other farmers in the community. On the basis of what was known about his organization through available records, observation, and consultation with the township agent, it was felt a fairly accurate picture could be obtained of his success at managing a farm. This could be compared with his opinion of this ability and the results checked with the existing hypothesis.

Relationships among variables. It is not assumed that the distinction existing among the three categories of variables is as clear-cut as the preceeding discussion might imply. Such a conceptual organization is merely to serve as a framework to develop and guide the investigation. Rather, it is supposed that there exists a merging or blending of all of the variables involved with their net effect being important in explaining progress or the absence of it.

It is also suggested that important interrelationships exist among the explanatory variables with the lines of causation running from one explanatory variable to another until eventually some change occurs in the effect variables. A hypothetical example might be as follows: A favorable attitude toward the Township Program will influence that family's participation in the program. This participation in the program may result in changes in the attitude the family holds toward the use of credit. The changed attitude in this regard may result in significant changes in the farm organization which will permit its more profitable operation. Only eventually will net farm earnings and the family's socio-economic status be enhanced.

It is hoped that the investigation will permit these patterns of interaction among the variables to be determined. This would aid in pointing out the variables holding key positions in the process of change.

Review of Related Literature

A study of the literature related to the area that is here under consideration--that of differentials in progress and the process of change- indicates that a considerable part of this work is in the area of the diffusion of farm and home practices. These studies could reasonably be classified under the following general headings: (1) studies primarily concerned with approved practices that are adopted and the reasons for adoption; (2) those dealing with the educational effectiveness of the various communication media that are used; (3) those primarily concerned with the diffusion process; and (4) those concerned with the socio-cultural and socio-psychological factors which limit or condition the adoption of improved farm and home practices.[16]

Those studies dealing with the adoption of farm practices and the reasons for their adoption as well as those concerned with the effectiveness of the various communication media are indicative of the approach used by administrators of action programs who have been confronted with the need for devising more effective educational techniques.

More closely related to this investigation are those studies dealing with the diffusion process and the socio-psychological factors which influence the adoption of farm practices. Certain of these

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[16] H. F. Lionberger "The Diffusion of Farm and Home Information as an Area of Sociological Research," Rural Sociology Vol. XVII, (June, 1952), p. 132.

studies warrant further consideration.

The diffusion process. One of the pioneer studies dealing with the diffusion process was that done by Ryan and Gross in relation to the adoption of hybrid seed corn.[17] In this study a limited number of farmers were initially interviewed to determine where they had first learned about hybrid seed corn, what factors influenced its adoption, and the period of time which elapsed between becoming aware of the practice and actually adopting it.

According to Lionberger, the fundamental contributions evolving from the study included the definition of an adoption time sequence pattern and a description of the role various sources of information and influences played at the different stages of acceptance.[18]

A more recent study of the diffusion process is summarized in Beal and Bohlen's How Farm People Accept New Ideas.[19] This study indicates that people go through several stages in learning about and adopting new practices. As developed by the authors of the study these stages are: (1) an awareness of the new idea; (2) the interest stage in which the individual strives to obtain general information about the idea; (3) an evaluation stage during which the potential adopter evaluates the new idea in terms of his own situation; (4) the trial stage in which the individual is concerned with getting information on how and when to use the practice; and, (5) the adoption

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[17]Bryce Ryan and Neal Gross "The Diffusion of Hybrid Seed Corn in Two Iowa Communities," Rural Sociology Vol. VIII, (March 1943), pp. 15-24.

[18]H. F. Lionberger op. cit., p. 135.

[19]G. M. Beal and J. M. Bohlen, op. cit., pp. 11.

stage in which the idea is completely accepted.[20]

The Beal-Rohlen study also points out a number of personal and social characteristics which are related to the adoption of new practices and to the individual family's susceptibility to change. One important variable in this regard is the values and expectations of the individuals involved. Where there is considerable emphasis upon maintaining old family traditions and values, change occurs more slowly. Likewise, where emphasis is upon individualism and personal success change occurs more rapidly.

The extent and nature of social contacts within the community are also important in the acceptance of change. In this regard Beal and Rohlen state:

> The presence of organizations whose objectives include the promotion of changes will aid directly and indirectly in the diffusion process. On the other hand, where social contacts are primarily through kinship, visiting and other informal activities, there may be greater resistance to change. . . . Hence, nature of the social contacts in a community is an important factor in the process of change.[21]

A number of individual and family characteristics are also indicated by the study to condition the extent to which change occurs. In this regard the education of the operator is positively associated with the acceptance of new ideas while the age of the operator tends to be negatively associated with change.

Those individuals who were active participators in general farm organizations and farmer cooperatives were found to accept new ideas

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[20] Ibid, pp. 4-5.

[21] Ibid, p. 7.

more rapidly than the low participators. Likewise those families whose children took part in the activities of the 4-H Clubs and studied vocational agriculture in school were more likely to adopt new practices. Access to new ideas through contacts with bulletins, farm magazines, and newspapers served to promote change.

Certain family characteristics were shown to be of significance in conditioning change. The goals of the family were important in providing motivation for action. It was also found that the family whose entire membership took an active part in the decision-making and operation of the farm tended toward acceptance of a greater number of approved practices. The value structure of the farm family plays an important role in that the aversion to risk and the desire for security will influence the extent of change which occurs. The process of change usually incorporates an element of risk which the family valuing security highly may be reluctant to take.

The basic contribution of the Beal-Bohlen study is the further understanding it affords of the stages involved in the process of practice adoption. A knowledge of these stages permits the educational agency to select the most appropriate and effective communication technique depending upon the particular stage the would-be adopter is presumed to be in at the time. The study has also served to point up the importance of customs, values, and aspirations of the individuals with whom the educational agencies are concerned and the role these attributes play in the acceptance process.

A Socio-Psychological Approach. A possible approach to the study of the process of change is that employed by Wilkening in his investigation of the acceptance of improved farm practices among 80 farm owners

in the Piedmont community of North Carolina.[22] This approach represents the socio-psychological point of view and regards the acceptance of new ideas as a function of the social relations and of the ideas, values, and sentiments which the farmer holds. The assumption is that although the techniques of farming serve economic ends, the economic behavior of the farmer cannot be fully understood apart from certain non-economic considerations.

The procedure employed by Wilkening was somewhat similar to that used in the present study. The primary source of data was the individual with information being obtained through the intensive or open-end interview.

While the basic purpose of the study was to demonstrate the methodological procedures which appeared to be appropriate in this area of research, the substantive findings follow closely those of other workers. Some of the important socio-psychological data which promise to be helpful in understanding the process of change include: (1) the extent to which the individual feels the change can be of benefit to himself; (2) the attitudes toward and contacts with the persons and agencies disseminating information about farm matters; (3) the extent to which formal education and scientific knowledge are considered to be essential for success in farming; and (4) the levels of aspiration as reflected by standards of living, size and type of farming operations desired, and social status aspirations.[23]

These references are but a few of the many investigations into the diffusion of farm practices. They are discussed here because of

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[22] Eugene A. Wilkening, op. cit.

[23] Ibid, p. 364.

their relevance to the present study and, in the case of the Wilkening study, demonstrate an approach somewhat similar to that employed in this investigation.

The case method, however, has been used relatively little in previous diffusion studies and it is hoped that the intensive investigation which such an approach affords will be valuable in revealing new relationships and insights.

It should also be emphasized that this study is not intended to be another diffusion study, per se, even though this element plays an important role. Rather it is oriented around a special aspect of the Extension Service, the Township Program, and is more concerned with the role this particular agency plays in the process of change than have been many of the previous studies.

CHAPTER III

A DESCRIPTION OF THE SELECTED FAMILIES AND THE CHANGES EACH HAS UNDERTAKEN DURING THE FIVE-YEAR PERIOD

It has been suggested previously that the process of change and the degree to which a family responds to an extension program is contingent upon a wide variety of cultural, psychological and social attributes of the individuals involved. A number of family and farm business characteristics have also been shown to condition the extent to which changes are made. These considerations suggest that a satisfactory explanation of differences in progress would require a rather thorough knowledge of these variables as they relate to each of the six families.

This chapter will consist of a description of these families in terms of the variables which have previously been considered of importance; it will also discuss the changes which have occurred among these variables during the period 1953-1957. Each family will be discussed individually in hopes of maintaining it as an identifiable unit. It should be remembered that families A, B and C, have been classed as high-changers while X, Y and Z, are low-changers.

Family A

Family attributes. Of English and Irish extraction, the husband and wife of this family possess a better than average education. The husband, who was 39 years of age, is a high school graduate. After graduation he attended a 16-week short course at the state college. His

wife, who was one year older than he, is also a high school graduate and, in addition, completed one year of schooling at a business college. Four daughters ranging in age from 9 to 15 years constitute the remainder of the family.

Operator A spent the major portion of his 17 years of married life in farming. However, immediately following his marriage in 1940 he worked as a machinist for a period of two years. In 1942 he gave up his machinist's position and rented a small farm in an adjoining county. This he operated with small, inadequate equipment which included horses rather than mechanical power. These years proved to be disappointing to him and his family and it was at this time that he seriously considered leaving the farm and taking up other employment. However, through the persuasion of the county agent he sold his horses, acquired a tractor, and proceeded to look for a larger farm which he might rent. He and his family succeeded in renting the farm upon which they now live and have spent the past 13 years at this location.

From information obtained in 1955, it was indicated that Family A was at that time relatively inactive in the organized groups of the community. The family seldom attended church and, although Operator A was a member of the Farm Bureau and the Grange, his attendance at the meetings was sporadic. The wife was a member of no organizations. The husband was chairman of the ASC Committee and this represented the only officership he held in any organization. He indicated that this level of social participation was also characteristic of the family in 1953.

Operator A's interest in the activities of the Extension Service

prior to the inception of the Township Program suggest that he had been only an average participator. From the 1953 questionnaire completed by the operator in conjunction with program evaluation it was learned that only occasionally did he attend meetings called by the county agent, or participate in farm tours and demonstrations. This fact was substantiated by a later visit with the operator at which time he indicated that his previous contact with the county agent had been "purely social in nature".

Farm characteristics. The farm upon which Family A resided in 1953 was comprised of 156 acres of which 139 were tillable. Of the total acreage, 80 acres were owned by the operator and the additional 76 acres were rented. The land was mostly level with Miami loam being the predominant soil type.

The farm business in 1953 had a net worth of $86,050. Liabilities, in the form of a mortgage debt, totaled $1,000. Gross farm income for 1953 amounted to $11,035 with a net farm income of $5,873.

The enterprise organization consisted of a dairy-cash crop combination. Forty-six per cent of the gross farm income in 1953 came from the dairy enterprise with 47 per cent of the income originating from cash crops. These were wheat and corn. The dairy herd had an average annual production record of about 7,900 pounds of milk per cow.

In the cropping program 25 per cent of the tillable acres were devoted to row crops, 51 per cent to grain crops, and 24 per cent to sod crops.

The total labor expended in the operation of this farm in 1953 consisted of 10.5 months of labor by the operator. During the winter he did not devote his full time to the operation of the farm and instead

was employed in an off-farm job for a period of 2.5 months.

Changes which have occurred. During the period from 1953 to 1957 some rather significant changes occurred in the organizational structure of the farm (see Table 2). Most noteworthy in this regard was an increase in farm size. Total acreage increased from 156 acres in 1953 to 255 acres in 1957. Operator A had purchased additional acreage in 1954 and again in 1957, thus increasing his total owned acreage from 80 acres in 1953 to 227 in 1957.

Additional changes were evident in the size and capacity of the farm equipment An additional tractor was purchased and the previously-owned tractor was traded in for a more powerful model. A two-row corn picker replaced the old one-row picker.

Some of the farm buildings were remodeled and enlarged to handle the larger quantities of grain and forage that were produced and 2,750 bushels of corn storage space were added. Hay mangers were enlarged and the capacity of the milking floor had been increased with the addition of 6 stanchions. Increased production had necessitated the purchase of additional cooling equipment and milker units.

The dairy enterprise had expanded both in numbers of animals and in production per cow. Operator A had moved from an average number of 14 milk cows per year to 22 and had progressed from a total of 30 head of dairy stock to 50 head. Milk production per cow had increased from about 7,900 pounds per year to over 11 700 pounds. These changes were attributed to better feeding and management of the herd in conjunction with greater emphasis upon good sires. The increase in per animal production is judged remarkable in view of the less rigorous culling that was done in order to build up the herd size.

The cropping program, in response to the expanded livestock program, had undergone considerable revamping with relatively more row crops and fewer grain crops being planted. In addition, over 7,000 feet of tiling had been installed on the land, fences had been removed and relocated to permit larger, more efficient field sizes and about 6 acres of woodland were cleared and put into cash crop production.

The labor used in operating the farm has increased from 10.5 man months in 1953 to 18 man months in 1958.

The volume of production as measured by the gross farm income figure had undergone considerable change. In 1953 the gross farm income figure was $11,035 but by 1957 it had increased to $18,374.

The "efficiency" of production, as measured by the gross farm income per tillable acre had increased from $79 to $91 over the five-year period. On the other hand the "efficiency" of production as measured by the gross farm income per $100 expense had declined from $214 to $171 indicating that production expenses were advancing relatively more rapidly than gross farm income as production was increased.

Because relatively little was known about the formal participation of Family A in the activities of the community prior to 1955, this comparison will involve only the years from 1955 through 1957. A study of the data indicates that Family A had become somewhat more active in the formal organizations of the community in 1957 than in 1955.[1] During this time however, Operator A's social participation index had remained constant at 85.[2]

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[1] "Formal organizations are here defined to indicate those organizations which hold regularly scheduled meetings and to which membership dues must be paid.

[2] This index was such as to reflect the extent to which the operator participated in the formal organizations of the community. It was

Although no rigorous attempt at measuring informal social participation of the family was made over the five-year period, visits with the family revealed that the members felt they had definitely experienced a considerable increase in the number of informal social contacts both within and outside the community. Part of this can be explained by the increased number of social activities which the daughters took part in as they grew older and became involved in the school and church life of the community. Operator A also intimated that only within the past few years had the family become financially able to engage in some of the community's informal social activities. The activities of the Township Program were also mentioned as representing opportunities for increased social contacts both within and outside the community.

To measure the extent to which improved farm practices had been adopted over the five-year period a simple unweighted system of index numbers was developed.[3] On this basis the analysis indicated that

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weighted in the following manner: Membership in the organization was given a weight of one; each meeting which was attended received an additional weight of two points; being a member in the organization received a weight of three; a board member received a weight of four; and being an officer in the organization was awarded with an additional five points. Thus, the higher the participation index, the more active the operator presumably was in the formal social activities of the community.

[3]The method used in the computation of an index to measure the extent of farm practice adoption over a given period of time has been a matter of controversy among those individuals concerned with farm practice adoption. Elaborate systems of weighting have been devised which are based upon such factors as the investment required to utilize the new practice, the net return expected from the use of the practice, or the magnitude of change, or action required to put the practice into effect. Thus, the adoption of a practice requiring a large investment or a large change in the habit or custom of the manager would be weighted more heavily than the adoption of a practice requiring a smaller effort on the part of the manager.

The procedure followed in this study is that of weighting equally

Operator A was using relatively more recommended practices in 1957 than in 1955. Of the 37 practices applicable to Farm A in 1953, 19 were being followed, yielding a practice adoption index of 51. This index contrasted with an adoption index of 65 in 1957.

In addition to using a larger number of recommended farm practices in his farming operation, Operator A had also increased the intensity of fertilizer application during this period. In 1953 he was applying an average of 57 pounds of plant food per tillable acre. By 1957 this had been increased to 112 pounds per tillable acre.

It was indicated earlier that Family A's contact with the Extension Service prior to the inception of the Township Program had consisted of occasional attendance at county-wide meetings, tours and demonstrations. This was altered considerably by the Township Program which developed within Family A deep interest in the activities of the program. Thus, the participation index for the year 1955 revealed

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all practices that are adopted. This approach is based upon the belief that such a technique will permit essentially the same result as a more elaborate system of weighting--a belief which is substantiated by the results of several investigations at the Iowa station. On this point Beal of Iowa in a letter written to the investigator on September the 8th, 1958, states: "The information we do have is scattered throughout a number of theses, where the research worker used elaborate weighting systems and then the simple . . . system and found that there was a very high correlation between these two approaches."

The complete process involved in developing the index numbers in this study consisted of examining the list of farm practices from the questionnaire which was submitted to each operator in 1953 and again in 1958 and selecting from the list those practices which could be classified as being definitely recommended. Those practices which were applicable to the particular farm being considered were then examined to determine the number of practices which were being followed in the recommended manner. By dividing the number of practices which were being followed by the total number of practices which were applicable to the particular farm, a percentage figure was obtained which constituted the farm practice adoption index. By comparing this index for the years 1953 and 1958 some idea could be obtained as to the relative number of recommended practices the manager was following at the outset and also at the termination of the Township Program.

that this family had made approximately 140 contacts with the program during that year.[4]

The net farm income figure had undergone some alteration during the five-year period increasing from $5,873 in 1953 to $7,651 in 1957. This would suggest that Family A may have found it possible to enjoy a higher level of living at the close of the period than was possible in 1953.

The net worth figure had also undergone considerable change during the five years. From a net worth of $36,050 in 1953 it had grown to approximately $54,300 at the end of 1957.

As had been indicated in an earlier chapter, the socio-economic status of a family is defined to include their cultural and material possessions which contribute to their well-being or satisfaction as well as their social participation. This definition would thus tend to subsume the net farm earnings and the net worth figures which have been discussed previously. Because these two figures have both increased over the five-year period along with the level of social participation, presumably the family's socio-economic status has been enhanced to some extent.

In addition to increases in these figures, Family A had made a number of changes in the home which would tend to increase its value to the family members. The home had undergone considerable remodeling including the installation of a picture window and the acquisition of

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[4]This index was designed using a weight of one for each contact the family had made with the program during the year. For example, one point was added to the family's participation score each time the agent had visited the farm, as well as each time the operator had attended meetings sponsored by the agent, read the agent's weekly newspaper column, or held a telephone conversation with the agent.

new furnishings and labor-saving appliances. Some landscaping had also been done around the home including the planting of shrubs and the reseeding of the lawn.

Operator A also indicated that the increased earnings that were being realized permitted the family to enjoy life a bit more, to "get away" from the farm for more days each year, and to enjoy certain of the social niceties, such as "eating out" which previously had been denied them.

Family B

Family attributes. This family, of Swedish background, was the youngest of the six families selected. The husband was 33 years of age (1958); his wife was 28. Operator B graduated from high school but his wife completed only her sophomore year after which she was married.

There are four children in the family--three daughters, who are 9,6 and 5 years of age and a son who is less than a year old.

Operator B had been farming for a period of 10 years, 7 of which were spent on this farm. He held no other full-time occupations but did work part-time in a local garage during the winter months immediately following his marriage in 1947. However, as he suggested during one of the visits, "Full-time farming was always in the back of my mind."

Both the operator and his wife participated to a certain extent in organized community groups prior to the initiation of the Township Extension Program and were regular church attenders. The husband had been a member of one of the general farm organizations of the community and attended the meetings with considerable regularity. He served as vice-president of the organization in 1955. Both he and his wife

attended the local PTA meetings and in 1955 he had been elected to the school board.

A study of Family B's participation in extension activities prior to 1953 reveals that very few or no contacts had been made up to that time. Of this Operator B said, "Before the Township Program was started I never used the county agent. I never asked him for any kind of advice. In fact, I wouldn't know the county agent if I saw him." Farm characteristics. Family B's farm in 1953 consisted of 265 acres of which 186 were tillable. All of this was being rented at that time on the basis of a 50-50 owner-operator lease. The land, of gently rolling topography, consisted of a gravel loam soil type. The farm was considered to be an excellent dairy farm.

The family's net worth of $13,527 in 1953 was the smallest of any of the six families and tended to reflect the youthfulness of the family and the slow and difficult start which Operator B had experienced in farming. (His father was not considered to be a successful farmer and consequently, had little material wealth or practical knowledge to pass on to the son.) The family at that time, 1953, was encumbered by liabilities totaling $[illegible],800, the bulk of which consisted of a mortgage debt.

The gross farm income for 1953 of $11,373 was very comparable with the other two high-change families. Net farm income for that year totaled $5,046.

This farm was predominantly organized around the livestock program which consisted of a dairy herd, a small number of beef cows and several breed sows. In 1953, 76 per cent of the gross farm income came from

these livestock enterprises with the remaining 24 per cent arising out of sales of cash crops. The hog enterprise resulted in 39 per cent of the gross farm income for the year.

The cropping program leaned rather heavily toward the production of wheat and oats with 52 per cent of the tillable acres devoted to grain crops, 25 per cent to sod crops, and 23 per cent to row crops.

The labor utilized on the farm during 1953 consisted of 12 months of work by the operator.

Changes which have occurred. While the changes which have taken place on this farm were fewer in number and smaller in magnitude than those which occurred on the farm of Family A, they still appear to be of significance (see Table 2). Total and tillable acreage during the five-year period remained the same but Operator B progressed from a full renter to a part owner having purchased 140 acres in 1956.

The machinery capacity of the farm had also been expanded with the purchase of a new four-plow tractor and, in addition, a hay chopper was acquired to provide the high quality forage needed by the dairy herd.

Noteworthy changes also included the building of a silo and the erection of a modern parlor-type dairy barn. With these changes was a large expansion in the dairy herd from 16 to 30 cows and the disposal of the beef herd. The hog enterprise was expanded to include the production of about 70 feeder pigs per year. The per cent of the gross farm income from livestock has thus increased from 76 per cent to almost 90 per cent. The labor months required to operate the farm likewise increased from 12 to 16 man months per year.

The volume of production as measured by the gross farm income figure increased from $11,373 in 1953 to a 1957 figure of $17,219. Gross farm

income per tillable acre increased from $61 to $92 while gross farm income per $100 expense decreased, as did Farm A, from $180 to $144.

Operator B's social participation index for 1955 was 128 compared to 186 for 1957 thus indicating that he had become somewhat more active in the formal organizations of the community. The family, too, had become somewhat more active as evidenced by their regular church attendance and the wife's membership in a Home Demonstration Unit. The husband's frequent meetings in conjunction with his work on the school board also served to raise his social participation index. Both the husband and his wife indicated some concern over this increased social participation and suggested that it may have been to the detriment of home life and the management of the farm. This concern had even developed to the extent of causing Operator B to resign from positions he held on the church board and in the Township Association.

With regard to informal participation of the family less information was available but questioning of the operator on this matter revealed that the family may have become a bit more active in the informal social affairs of the community. This was attributed to the girls becoming older and thus, taking a more active part in such activities. The Township Program was also believed to have been instrumental in bringing about this increased social interaction through the opportunities it afforded for developing new friendships both within and outside the community.

Operator B was using only slightly more recommended practices in his operation in 1958 than he had been in 1953 as evidenced by an index of 61 for 1958 as compared to 58 for 1953.

Even though Family B had developed few, if any, contacts with the Extension Service prior to 1953, this family became active participators within a relatively short while after the program was organized. Although the participation index suggests that these contacts continued to grow in number with the passage of time, (from 107 in 1955 to 134 in 1957) both Operator B and the township agent indicated that they were becoming more significant in nature. Thus, while the operator had in earlier months called upon the agent for information of a somewhat more trivial nature, the passage of time had served to inform and educate the operator to the extent that it became necessary for him to call upon the agent for assistance only when he faced decisions of a considerable magnitude.

Of the three high-change families, Family B's net farm income had increased the smallest amount, having advanced from $5,046 in 1953 to $5,289 in 1957. However, in sharp contrast to the relatively small change occurring in Family B's net farm income, the net worth figure had more than doubled. With a figure of $13,527 in 1953, by 1957 this had advanced to $27,550.

Family B had undertaken a good deal of remodeling in the old farm home in which they lived, including the addition of a new kitchen and a large number of new pieces of furniture. A small amount of landscaping was also done during this period.

The new milking parlor permitted a more rapid, efficient system of milking and was recognized as a great labor-saver. The words of Operator B are interesting at this point, "We felt now that we had a good enough milking set-up that we could get a hired man in here that would be able to handle the job successfully. This permitted us to take a few days of vacation last year. In fact, last year was the first time in six years

that we've taken enough time off to go on a vacation. It was only two days but to us it was very enjoyable."

Family C

Family attributes. This family was relatively young in comparison with the other five families. The husband was 36 years of age; his wife was 28 (1953). Of German background, both were born on the farm and have spent their entire life there. Both have had 12 years of formal education.

The children of this family were the youngest of the six families and ranged in age from 3 to 5 years. The two oldest children, ages 4 and 5, were girls; the boy was 3 years old. A full-time hired man also lived with the family.

Operator C had 9 years of farming experience but spent only three of these on the present farm. Previously he rented a farm in the adjoining township but moved to the present farm after purchasing it in 1954.

Family C would easily be considered the most active in the formal social activities of any of the six families. An active purebred swine and dairy breeder, Operator C was a member of several national and state breed associations as well as a member of the Farm Bureau. The family, members of the Lutheran church, were extremely active in church affairs and were known to seldom miss a Sunday morning worship service.

Family C maintained a relatively large number of contacts with the Extension Service prior to 1953 and, in fact, had developed more such contacts than any of the other five families. It was intimated by the township agent that Operator C was the type of individual who would pay well for any service which would enable him to become a more successful

farm operator. Consequently, he displayed a great eagerness for new ideas and information which would aid him in the operation of his farm. He was known to rely very heavily upon the Extension Service and continually required confirmation and reassurance from the agent in any operations which he undertook.

Farm characteristics. The farm upon which Family C resided in 1953 consisted of a total of 321 acres, 220 of which were tillable. Operator C rented this farm in its entirety and owned no other additional land.

The family had acquired a net worth of $27,318 in 1953 and at that time was free of debt. Gross farm income for 1953 totalled $13,320 with a net farm income of $6,133. These two figures were both larger than for any of the other five farms.

The enterprise organization consisted primarily of a large swine enterprise, accounting for 58 per cent of gross farm income, a beef cow herd which provided for 14 per cent of the income, and a very small dairy enterprise. Operator C had done a considerable amount of custom baling in 1953, a fact which accounts for the bulk of the remaining gross farm income.

The cropping program did not include cash crops and was primarily developed to support the livestock enterprises. The tillable acres were devoted almost equally to the production of row, grain and sod crops.

The labor expended in the operation of the farm included 12 months by the operator, 4 months of family labor and 1 month of hired labor.

Changes which have occurred. Family C possibly made the greatest number of changes with respect to farm organization of any of the six families (see Table 2). Beginning with a farm of 321 acres in 1953, this family

in 1957 was farming 510 acres of which 448 were tillable. Of these 510 acres the family had purchased 176 acres during the five years.

To handle this greatly expanded acreage a considerable amount of new and larger capacity machinery had been acquired. Noteworthy in this regard was a new 2-row corn picker, a 4-row planter, a 4-row cultivator, a 4-bottom plow, and two used tractors. To handle the increased forage production a new hay chopper was purchased along with an unloading wagon and a baler.

Operator C greatly expanded his dairy enterprise during the past five years. While owning 9 head of dairy cows in 1953, he expanded this to a present herd of 60 cows. It seems highly probable that this figure would have been considerably higher had the dairy herd not suffered an outbreak of Bang's disease in 1956 which necessitated the sale of 26 animals.

This greatly increased dairy herd encouraged the operator to modernize his feeding and milking system. He purchased a pipeline milker and a bulk tank and installed automatic waterers and feeders in the milking parlor. A pole barn had been erected and the milking parlor was remodeled. A silo had been built and a silo unloader was installed in the silo. To facilitate feeding the barnyard was cemented and an auger feeding system was developed.

As has been indicated, the livestock program underwent considerable alteration. A portion of the greatly increased dairy herd was acquired with funds obtained by the sale of the beef herd. The swine enterprise was likewise expanded to produce about 40 litters of pigs per year. During this period this enterprise had come under the complete ownership of the operator. Previously, it had been operated on a 50-50

basis with the husband's father-in-law.

The cropping program was changed to permit the production of relatively more forage and corn for use with the dairy and swine operations.

The labor requirements needed to operate this greatly expanded farm organization more than doubled. While 17 man months of labor were required in 1953, more than 36 man months were needed in 1957.

The gross farm income figure which reflects the volume of production increased from $13,320 in 1953 to $36,974 in 1957. Milk production per cow increased from a yearly average of 9,908 pounds to 11,041 pounds. Gross farm income per tillable acre increased from $61 to $82. Gross farm income per $100 expense declined somewhat over the period. From $185 in 1953 it dropped to $159, again reflecting the relatively higher expenses associated with larger output, or perhaps an increasingly unfavorable parity ratio.

It was noted previously that Operator C had been very active in the formal organizations of the community in 1955. From an index of 305 that year, the index for 1957 dropped to 261. This drop in social participation was attributed to the increasing demand for time in the operation of the larger farm organization, and particularly the greatly expanded dairy enterprise. In this regard, the operator suggested, "We like to be good participators in any organization we belong to. If we don't have time to be a good participator we'll drop the membership."

The keen desire of the operator for new ideas and information on improved farming techniques is reflected in the farm practice adoption index for 1957. With an index of 66 in 1953, by 1957 this had increased to 82. In addition, the intensity of fertilizer application had been increased from 44 pounds of plant foot per tillable acre in 1953 to

69 pounds in 1957.

As was indicated, Family C had been active participators in the Extension Service prior to the Township Program. This level of participation steadily increased with the passage of time and by 1957 the family was again having more contacts with the program than any other family. In addition to these contacts Operator C had been very active in the Township Association and was elected secretary-treasurer of the organization during 3 of those 5 years. He had also served on various committees affiliated with the Association.

During the five-year period Family C saw their farm's net income more than double. From a figure of $6,133 in 1953 it had grown to $13,767 by 1957. The net worth figure also increased prodigiously during the period. The net worth figure at the end of 1953 was $27,318 while by the end of 1957 it had grown to $56,228.

Although this family experienced a greatly increased net worth and net farm income, very few changes occurred in the modest, but comfortable, farm home. This is quite remarkable when viewed in light of the great many changes which have occurred on the farm. These observations suggest that Family C may have considered material acquisitions in the home as being relatively unimportant but may have derived a great deal of satisfaction from developing a larger farm operation.

The modern equipment and the many labor-saving innovations employed in the operation of the farm were doubtlessly of significance in reducing the heavy manual labor required. Operator C stated that the family took fewer days of off-farm vacation at the end of the period than at the outset of the program. However, the hours spent in the actual operation of the farm were fewer because of the many labor-saving changes which had been made.

Family X

Family attributes. This family was one of the oldest families in the group. The husband, who was 42, was the oldest farm operator of the six. His high school education plus an 8-weeks short-course in dairy production would also rank him near the top with regard to education. His 39-year old wife was a high school graduate.

Five children were living in the home of which three, ranging in age from 9 to 17, were rightful members of the family. The two youngest boys, ages 5 and 6, were boarded with the family through a nearby foster home for which the family received $20 per week. The husband and wife, both deeply religious, considered the boarding of the two youngest boys as a Christian duty. However, it was suggested by the husband that the payment received for their maintenance had not only paid the additional expenses involved, but also permitted the family to purchase a number of new household appliances.

Operator X was born and grew up on a farm although his wife grew up in a nearby city. At times she expressed considerable dissatisfaction with farm life and would apparently welcome the opportunity to move to the city. This fact was probably responsible for the family putting the farm up for sale in 1944. However, the farm was never sold and the family continued to reside there.

Operator X also possessed the longest farming experience of any of the six farmers. He had farmed for 18 years, a period during which the family lived on four different farms. The present farm was purchased in 1943. Aside from church attendance, which is very regular, this family participated in no other formal organizations. Operator X had demonstrated some interest in 4-H work and served as a 4-H community leader

in dairy during 1955. In addition, he was a member of the school board during that year. He suggested that a good many of the social organizations served only to take up one's time but considered church attendance of extreme importance to family welfare.

The family's previous contact with the Extension Service developed primarily out of the children's participation in 4-H work. Operator X suggested that seldom had he seen or contacted the county agent but occasionally he had read a bulletin distributed by the agent's office.

Farm characteristics. Family X's farm in 1953 consisted of 160 acres of slightly rolling land. Included in this were 20 acres of muckland. Most of the farm was made up of a sandy loam soil. Of the 160 acres, 104 were tillable. The farm was owned by the family and no additional acres were being rented.

The family's 1953 net worth of $31,500 was the second highest figure of the six families. A mortgage debt of $3,500 rested against the land at the time. Gross farm income for the year was $5,270. This was the smallest gross farm income of any of the farms being considered. The net farm income for the year was a negative $.51. This also was the smallest figure in the group.

The enterprise organization in 1953 consisted of a dairy enterprise, a small sheep enterprise, and a laying flock. The poultry enterprise accounted for 46 per cent of gross farm income; the dairy enterprise for 36 per cent. Wheat sales provided for an additional 5 per cent of the income.

Of the tillable acreage, 21 per cent was in sod crops, 47 per cent in grain crops, and 25 per cent in row crops.

During the year 1953, Operator X had not devoted his full time to

the operation of the farm. He spent approximately 300 days of the year as an artificial inseminator for one of the breeding associations. However, the family labor along with his part-time help on the farm resulted in 12 man months of labor being expended in the farm's operation during the year.

Changes which have occurred. Total acreage farmed by Operator X remained unchanged over the five-year period and no additional land had been purchased. Some changes had been made with regard to farm equipment including the purchase of a used Ferguson tractor, a used hay chopper and blower (purchased in partnership with his neighbor), a used corn picker, and a used pick-up truck. No building remodeling was done with the exception of some minor repairs to the home.

In the livestock program a number of changes had occurred. Operator X disposed of his dairy herd and expanded his hog enterprise. He had also begun a steer-feeding operation. Holstein steers were used in this regard during the early years in the period. Later Hereford cattle were purchased through the encouragement of the township agent. The cropping program had undergone little change.

The amount of labor used in operating the farm declined steadily throughout the period. From a high figure of 12 man months in 1953, this had regressed to 8 man months during 1957. Operator X continued his off-farm employment but gave up his former work as an artificial inseminator for a job in a nearby auto assembly plant.

Gross farm income increased slightly over the five-year period. The 1953 figure was $5,270 while the 1957 figure had increased to $7,341. Gross farm income per tillable acre rose from $91 to $71 and gross farm income per $100 expense had also increased from $100 to $124.

Operator X's formal social participation decreased from an index of 122 in 1955 to 103 in 1957. This was attributed to his work on the night shift which prohibited him from taking up membership in any of the community organizations which customarily held meetings during these hours.

Operator X's wife suggested that informal social participation had also declined during the five years. She attributed this to her new responsibilities in caring for the two foster youngsters and the added difficulty involved in taking the family away from home during the evening.

The farm practice adoption index indicates that Operator X was using about the same relative number of recommended practices in 1957 as he had in 1953. From an index of 45 in 1953, the figure had risen only very slightly to 46 in 1957. The intensity of fertiliser application had been reduced an element of strong contrast with that of Operators A, B and C Only on average of 26 pounds of plant food per acre were being applied in 1957 as compared with 31 pounds in 1953.

The number of contacts with the Township Program increased from 72 to 102 during the years 1955 through 1957. Although Operator X held no positions of responsibility in the Township Association he had exhibited an interest in the program from the outset and at that time had campaigned quite actively to establish the program in the community.

Although the farm business realized a negative net farm income in 1953 this figure had increased to $1,413 for 1957 This, of course was yet quite low but it did represent considerable progress. Net worth increased slightly from $31 539 in 1953 to $37,989 at the end of 1957.

The home had undergone considerable remodeling including the acquisition of several pieces of new furniture and a number of household appliances. A new clothes washer and dryer added to the convenience and ease of housekeeping. Some landscaping was done around the home a fact which encouraged Operator X to suggest that the home was considered to be one of the prettiest in the neighborhood.

Family Y

Family Attributes. Of Dutch and English extraction the husband and wife were both high school graduates. He was 38; she was 35. There were four boys in the family ranging in age from 7 to 15.

Both the husband and wife had spent their entire lives on the farm and lived on the present farm for the past 10 years. As did Family X, this family lived on 4 different farms during the 15 years which they have been farming.

Following an outbreak of Bang's disease in the dairy herd in 1954, Operator Y held an off-farm job with the county road department. The Bang's incident forced him to dispose of his entire dairy herd of 28 cows and, at the suggestion of state veterinarian no dairy cows were kept on the farm for the two years following the outbreak. Only within the past year had the operator begun rebuilding the dairy herd.

Family Y had been quite active in the social organizations of the community and was a particularly enthusiastic participator in the farm organizations. The township agent suggested that social participation was a primary interest of this family. Only of secondary importance was making a success of farming. Operator Y encouraged his sons to become active in 4-H work and served as a 4-H leader during most of the five-year period. Church attendance was irregular and no

claim was made of church membership in 1955 (the earliest year for which information is available).

Operator Y had been characterized by the township agent as a strong "family man" and was very much interested in the school activities of his sons. Both he and his wife were avid baseball fans, particularly of games in which their sons participated, and frequently traveled to neighboring towns to attend the contests.

The interest in 4-H work which the family exhibited served to develop rather frequent contacts with the Extension Service. Even prior to the inception of the Township Program the husband indicated that he had been a frequent visitor at the county agent's office. Most of these visits were in relation to 4-H work and apparently few dealt with problems the operator may have encountered in his farming operation.

Farm characteristics. The farm upon which Family Y resided in 1953 consisted of 165 acres of which 129 were tillable. Of these 165 acres, 100 were owned by the family.

The soil a heavy loam, had high production potential although drainage was a problem. During these ten years in which Family Y owned the farm no attempts had been made to establish a drainage system.

The family's net worth in 1953 was $24,820, a figure which was about average when compared to the other five families. The family had a mortgage debt of $4,300 at that time. The gross farm income of $6,202 was slightly smaller than that of farms A B and C but it was higher than those of the other two low-change farms. Net farm income was $2,208.

The enterprises of dominant importance in 1953 were those in the cash cropping program which accounted for 40 per cent of the gross farm

income. The dairy enterprise provided for 24 per cent of the income with the remainder arising out of the custom baling which the operator had done that year. As has been indicated, the cropping program was organized around the production of wheat, corn and oats. Nine per cent of the tillable acres were devoted to hay production

The labor used on the farm during 1953 consisted of 8 5 months by the operator and three months of labor by the family The wife was employed part-time as a clerk by one of the local merchants.

Changes which have occurred. The changes occurring in this farm organization during the five-year period were rather significant but there exists some question as to whether they would all be classed as being progressive in nature (See Table 2) The farm in 1957 was somewhat smaller in size than it had been in 1953 having decreased in tillable acres from 129 to 83. This was the result of no longer farming the land which had previously been rented Already mentioned was the unfortunate outbreak of Bang's disease which resulted in the disposal of the dairy herd

Some changes of a positive type had also occurred. A machinery shed, a hog house, and a chicken house were built during the period A slightly larger used tractor had been acquired. Some minor remodeling of the dairy barn was done to meet sanitation requirements for the production of Grade A milk (Operator Y indicated that he planned to expand the dairy herd from 3 cows to 10.)

The cropping program had been altered to include the production of more forage for the dairy enterprise. When asked about changes in the cropping program the operator indicated that he was fertilizing heavier at the end of the period than he had previously. This was

substantiated by the fertilizer application records which showed a significant increase of from 28 pounds of plant food per acre in 1953 to 72 pounds per acre in 1957. (This appeared to be one of the major changes which Operator Y had made as a result of his participation in the program.)

Gross farm income figures showed no such progress From a figure of $6,202 in 1953, the gross income had decreased to $1,621 in 1957. Milk production records for 1957 were not available but 1953 records indicated a production level of 5,435 pounds.

Gross farm income per tillable acre decreased from $48 to $20 during the period. Gross farm income per $100 expense had also decreased from $155 to $47.

Operator Y became more active in the social organizations in the community as reflected by an increase in his participation index from 68 to 134. During the period the family became affiliated with a second farm organization and had become regular church attenders. The work with the 4-H club required additional night meetings both by the father, in his capacity as a leader, and the sons who were becoming increasingly active.

The family had become more active in the informal social activities of the community primarily as a result of the sons becoming more involved in the school's athletic events and their participation in a summer baseball league.

Operator Y was using slightly fewer recommended practices on his farm at the close of the period than at the outset. The farm practice adoption index in 1953 had been 42 but by 1957 had declined somewhat to 36. A noteworthy exception to this decline in use of

recommended practices was the higher intensity of fertilizer applications.

Net farm income declined from $2 208 to a negative $1,827 during the period but the family's net worth showed a slight increase of from $24,820 to $29.265.

An evaluation of the change which may have occurred in the family's socio-economic status involves a number of difficulties. The family's greatly increased participation in the social organizations of the community would presumably increase this status. Even though the net farm income declined during the period the husband had obtained a well-paying off-farm job which may have increased the family's disposable income over its 1953 level. The wife was employed nearly full-time during 1957--a factor which may also have raised the family's disposable income. This factor of course may also have certain disrupting influences upon home life which are not conducive to family happiness.

The home had been modernized to some extent during the period and a number of work-saving appliances were acquired. The operator also suggested that the family was putting in fewer hours of work and thus "enjoying life" to a greater extent than previously. This, he indicated, had come out of the realization that "there's no use working yourself to death."

Family Z

Family attributes. This family, of German and Polish extraction, was unique in several respects. The members of the family were the oldest of those being considered. The husband, a high school graduate, was 41 years, of age; his wife was 40. There were six children in the

family--3 sons and 3 daughters--ranging in age from 1 year to 17 years. The oldest child was a 17-year old son.

Operator Z had been married for 18 years, 15 of which were spent on this farm. From 1936 to 1943 he was employed as a welder in a nearby city but, following the death of his father, he moved to the farm where the family now lives. This farm was formerly owned by his father, passing on to the operator at the time of his father's death.

This family participated in no formal organizations other than the Roman Catholic church and the Farmers Union. A devout Christian family, they were extremely regular in church attendance. The meetings of this farm organization were also well-attended by Operator Z. He was a great protagonist of the viewpoints and philosophy of this organization.

The operator was also unique in the sense that he was the only one of the six being considered who was overtly opposed to the Extension Service and particularly to the Township Program. His previous contacts with the Service consisted of reading newspaper articles written by the agent or occasionally calling the office for information on diseases or insects which may have been troublesome at the time. He indicated that he had never met the county agent and thus "wouldn't know him if I saw him" He reiterated on several occasions that he failed to see a purpose for the Township Program or the Extension Service and believed them to be a "waste" of tax money.

Farm characteristics. Family Z's farm in 1953 was comprised of 120 acres of which 83 were tillable. The entire farm was owned by the family. No additional acres were rented. The soil was an extremely heavy clay loam with drainage being the dominant barrier to higher productivity.

No drainage had been done in the past and the operator was keenly aware of this as a fault of past management. It should be noted that this farm in 1953 was the smallest of the six under consideration.

The net worth in 1953 was $19,287. The family was burdened to some extent by liabilities totalling $4,700. Gross farm income for the farm in 1953 was $5,274 while net farm income totalled $2,333.

The farm in 1953 was predominantly a livestock farm with 99 per cent of the gross farm income arising from the dairy, hog, sheep and poultry enterprises. The dairy and hog enterprises were dominant in the organization and together resulted in 83 per cent of the income.

Corn, utilized in the dairy and hog operations, was the dominant crop on the farm. Some oats and wheat were also produced. Of the tillable acreage, 39 per cent was devoted to row crops and 43 per cent to grain crops.

Fifteen man months of labor were used on the farm during 1953 including 12 months of operator's labor and 3 months of family labor. Operator Z spent some 15 days in an off-farm job during the fall of that year.

Changes which have occurred. This farm possibly had undergone fewer changes than any being considered. Total acreage remained unchanged. The dairy herd was involuntarily reduced from 18 to 8 cows as a result of a Bang's disease attack. The only change in regard to machinery and equipment was the purchase of a corn picker. Corn storage capacity has been increased with the addition of two corn cribs.

The livestock and cropping programs remained virtually unchanged during the period. Although the dairy herd underwent a sizeable reduction in 1955, this was almost completely rebuilt to original numbers

by 1957.

The labor used in the operation of the farm increased slightly from 15 to 18 man months per year.

Gross farm income declined during the period from a figure of $5,274 in 1953 to a 1957 figure of $4,542. Gross farm income per tillable acre and gross farm income per $100 expense likewise declined; the former from $64 to $55 and the latter from $179 to $117. No milk production figures were maintained by the operator during this period.

Participation by the family in formal organizations remained approximately the same with the church and the farm organization being the primary formal activities of the family.

Informal participation by the family may have increased somewhat during the five years as a result of the growing up of the children. The operator suggested that the family was less active in this informal participation than the average family of the community. This he attributed to his work on the night shift at a nearby factory.

The farm practice adoption index had decreased from 36 in 1953 to 25 in 1957. Application of plant food per acre increased slightly from 30 pounds in 1953 to 39 pounds in 1957.

Operator Z's attitude toward the Township Program remained unchanged during the period. The only contacts which the family had developed with the program were those of reading the weekly newspaper column and the occasional circular cards and letters written by the agent. The extension participation index declined from 83 to 58.

Net farm income declined from $2,333 in 1953 to $675 in 1957. Net worth had shown an increase from $19,287 to $25,458.

The socio-economic status of Family Z may have been enhanced

very slightly during the period. Although social participation was unchanged, the material possessions of the family were increased through the acquisition of a home freezer and a television set. In addition, some modernization was done in the home. A water system was installed and the wood stove formerly used in cooking was replaced by a modern gas range.

Summarizing High and Low-Changers with respect to the Extent of Change Which Has Occurred

In studying the change which has occurred on these farms during the period in which the Township Program was in effect one is impressed with the greatly increased scale of operations which the high-changers have undertaken (see Table 2). In all cases have the high-changers increased their gross farm incomes by rather significant amounts. On the other hand, of the low-change families, only Family X has shown some progress in this regard while Families Y and Z have realized smaller gross incomes in 1957 than in 1953. All high change families have enjoyed increased net farm incomes but of the low-change families, only Family X has realized any increase.

Although all families have increased their net worths, the high-change families have experienced a considerably larger growth than the low-change families. Families B and C have more than doubled their net worth during the period.

Very noteworthy is the progress the high changers have made with regard to land ownership. Family B purchased 117 tillable acres during the period, Family B increased its owned tillable acres by 126, and Family C purchased an additional 150 tillable acres. In strong contrast are the low-change families of which none had purchased any additional

land.

The high-change operators were farming more acres, using more labor, and employing relatively more recommended farm practices in their operations than were the low-change farmers. Although only Operator X had held an off-farm job at the outset of the program, both Y and Z had taken up off-farm employment during the five-year period.

All families, with the exception of Family Z experienced increased participation in the Township Program in 1957 over what it had been in 1955. No definite trend could be isolated with regard to the families' social participation.

TABLE 2.

CHANGES WHICH OCCURRED AMONG THE SIX FAMILIES WITH REGARD TO SELECTED FARM AND FAMILY CHARACTERISTICS

Characteristic	High-Change Families						Low-Change Families					
	Family A		Family B		Family C		Family X		Family Y		Family Z	
	1953	1957	1953	1957	1953	1957	1953	1957	1953	1957	1953	1957
Total tillable acres	139	228	186	187	220	448	104	104	129	82	83	83
Owned tillable acres	74	200	0	117	0	150	104	104	72	82	83	83
Net worth	36,050	54,502	13,527	27,550	27,318	56,228	31,539	37,989	24,820	29,265	19,287	25,458
Gross farm income	11,035	18,374	11,373	17,219	13,320	36,974	5,270	7,341	6,202	1,621	5,274	4,542
Net farm income	5,873	7,651	5,046	5,289	6,133	13,767	-.51	1,413	2,208	-1,857	2,333	675
Gross farm income per tillable acre	79	91	61	92	61	83	51	71	48	20	64	55
Gross farm income per $100 expense	214	171	180	144	185	159	100	124	155	47	179	117
Labor months	10.5	17	12	16	17	36	12	12	11.5	12	15	18
Milk production per cow	7,899	11,745	9,188	9,180	9,908	11,041	6,000	5,898	5,435	N.A.	N.A.	5,297
Pounds of plant food per tillable acre	57	112	55	92	44	69	31	26	28	72	30	39
Practice adoption index	51	65	58	61	66	82	45	45	42	36	36	25
Extension participation index	140	148	107	134	136	198	72	102	94	122	83	58
Social participation index	85	100	128	193	305	261	122	103	68	136	136	127

CHAPTER IV

AN INTERPRETATION OF THE ELEMENTS RESPONSIBLE FOR THE DIFFERENTIALS IN PROGRESS AMONG FAMILIES

The preceding chapter has served to emphasize the two distinct types of families that are included in this study. One group is classed as progressive when viewed in light of the significant changes its constituents have made in the total complex of farm organization and family living. The second group includes those families who have experienced little or no such progress during this period (1953-1957).

It is the task of this chapter to attempt to isolate those variables which appear to be of significance in explaining progress, or lack of it, and to trace out any interrelationships which may exist among the explanatory variables. The intensive study of each of these families has served to point up family and individual attributes which appear to be of importance in explaining change, and it is these elements which will receive consideration in this chapter.[1]

Because all families were relatively homogeneous in 1953 with regard to age, education and resource endowments, these particular variables are not deemed of importance as explanatory elements.

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[1]The views presented here are those which have evolved out of the author's close contact with the families concerned and may unknowingly reflect his biases or prejudices. Although every attempt has been made to remove such elements when they are known to exist and to present a factual, objective analysis, it is well to realize that this inherent danger does exist in such an approach.

The approach will be to examine each family individually and to discuss the elements accounting for the differences in progress in the order of their importance as they have appeared to the investigator. In not all cases, of course, is this distinction of magnitude easy to make. It should be noted also that a study of these families has turned up certain elements which have not previously been considered as explanatory variables but which appear to be important in explaining why a family has or has not made significant advances during this period. Where such factors appear they will be discussed in conjunction with the other explanatory variables.

Family A

In attempting to determine the impact of this intensive extension program on the various families, it is of significance to note the influence the Extension Service may have had upon these families in past years. In this regard, it was noted previously that the suggestions of a county agricultural agent were instrumental in encouraging Family A, in 1943, to remain on the farm rather than take up a nonfarm vocation as was being contemplated at the time. This fact may be particularly noteworthy when it is recalled that at that time the family was living on a small, poorly-equipped, rented farm, but in the subsequent years have advanced to a relatively large well-equipped operation.

Attitudes toward, and interest in, the farm. In Chapter 2 it was suggested that the attitude of the family toward farm life will condition the extent to which a family progresses. This hypothesis appears to be well supported in the case of Family A. The study of the family revealed that the family members were deeply interested in farming, both as a way of life and as a means of earning a livelihood.

The satisfaction and pleasure which the family members experienced in farm life became evident during discussions with the family. During these visits Operator A spoke of his enjoyment in "working with the land," "watching things grow," and "being close to nature."

Of significance is an apparent change in the family's attitudes toward farm life during the years following their decision to remain on the farm. As the family advanced toward full farm ownership, the misgivings held previously about farming appear to have been supplanted by a realization that farming may offer a satisfactory income in return for good management and hard work. The operator suggested that the Township Program may have played a significant role in this regard by ". . . pointing out the opportunities that exist in farming for raising farm income and the level of living." He remarked that the program through the farm business analysis "has shown us where we are going and that some financial progress is being made." This, he indicated, was important in "boosting morale."

The family members exhibited a high degree of family integration and were all concerned with making a success of the farming operation.[2] Although the daughters were relatively young, each had a part in making decisions relevant to the farm business and possessed a ready knowledge of the financial aspects of the operation. Of this, Operator A said, "After all, they are all hard workers. They are an important part of

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[2]Family integration refers to the extent which the family functions as a unit in attaining goals with the interest of the individual members being considered. This attribute was shown by Wilkening to be positively associated with the acceptance of improvements in farming. See Wilkening, Eugene A., "Change in Farm Technology as Related to Familism, Family Decision Making, and Family Integration." American Sociological Review, Volume 19, (February, 1954) pp. 29-37.

the business, so why shouldn't they know about it.

An additional element possibly bearing upon the success of the family was the active role played by the wife in the operation of the farm. Growing up in a progressive farm family and obtaining additional education at a business college, she possessed a thorough understanding of the farm business and was of valuable assistance to the operator in making important farm decisions. Operator A placed a great deal of faith in her managerial ability and consulted with her on nearly all business matters pertaining to the farm. The importance of her assistance is indicated by the township agent's statement that "Fifty per cent of the time Operator A does as well as he does is the help he gets from his wife."

Attitude toward the program. Operator A's feelings toward the program were not immediately those conducive to complete receptivity, although he had shown some interest in having the program established in the community. The township agent characterized Operator A as initially being "cool" toward the program. The agent further suggested that Operator A possessed ". . . a set of ideas as to just what the program should do for him and what it should cost." Operator A's feelings in this regard may have resulted from his opinion at that time of the usefulness of the county agent: "To me the county agent is just a meeting attender. He can't give a farmer individual help because he is too busy attending meetings and serving on committees other folks have put him on. My contact with the county agent is mainly social."

It appears, however, that Operator A was quick to sense the usefulness of the program to him and soon became an enthusiastic supporter of its activities. He served on the association board for three of the

five years and had been a member of several association committees. Participation in the program had also encouraged the children to become active in the 4-H Clubs of the community.

In attempting to account for Family A's behavior in this regard, it is believed that this may have been an instance in which the increased participation in the program resulted from a change in the attitude held toward the Extension Service. As the family became more familiar with the program and discovered its usefulness to them, they became increasingly active in it. This increased participation may then have served to influence changes in farm organization, adoption of recommended practices, and so forth, with the eventual result being increased income and net worth.

The behavior of this family emphasizes the importance of demonstrating to a family the ways in which an extension program can be of value to them. Only after its usefulness to them had been proven was Operator A willing to become an effective and enthusiastic participator. This example would suggest that the Extension Agent in his role as an educator, must also be an effective salesman who can demonstrate in a convincing manner the usefulness of his knowledge and technical know-how.

Attitude toward change. In explaining change and progress it is apparent that the family's attitude and susceptibility toward change becomes of significance. Although the family had been characterized by the township agent as being "conservative" in regard to adopting new practices and reorganizing the business, the operator did exhibit a keen interest in any innovation which would result in higher earning power. He remarked that an important element influencing his decision to adopt a new technique was 'whether or not it is practical for me and

will work in my particular situation. I have got to see that this thing will help me before I am willing to try it. I am no guinea pig.'

In consideration of the magnitude of the changes made in the farm organization and the number of recommended practices that have been adopted during the five years, it appears that Operator A's conservative attitude in regard to change may have been altered to some extent. This perhaps was the result of the township program in that the program demonstrated to him in the convincing terms of dollars and cents exactly what a reorganization of the farm could do for him. He acknowledged the great help the farm business analysis had been to him, and it may have been this aspect of the program which resulted in the changes in his organization.

Goals of the family. A tentative hypothesis of Chapter 2 was that the family who possessed a clear picture of their objectives was more likely to attain these objectives than the family who had not so completely "thought out" their goals. It is believed that an element of major importance in explaining the progress realized by this family was their ability to select realistic but challenging goals. The realism of the goals selected by the family is attested to by the fact that the goals chosen in 1953 had nearly all been achieved by 1958. That the goals appeared to be challenging is indicated by their nature. They had included the purchase of additional acreage, modernization of the home, and that of "becoming more active in the social life of the community." In this regard the township agent stated, "That family probably has as clear a picture where they want to go and how to get there as any of the six."

Operator A indicated that the Township Program had been instrumental in the achievement of these goals. It was through the encouragement

of the township agent that he had purchased additional land. This, he suggested, permitted him to expand his operations which eventually resulted in higher earnings. These higher earnings had then made the modernization of the home possible.

In regard to Operator A's objective of "becoming more active in the social life of the community" it is interesting to note the comment of one of the community's prominent citizens: "That fellow is certainly going places. Neighbors accept him now because he is a sound fellow and a good farmer." The township agent also suggested that Operator A had grown more in social status than any other individual in the program.[3]

Attitude toward the use of credit. The wise use and management of credit by Family A is an element accounting for a certain extent of their progress. Operator A had relied upon credit for the purchase of additional land, machinery and livestock. His knowledge of the value of credit in the modern farm operation was suggested by his statement "We can't see anything wrong with borrowing money at 6 per cent to buy fertilizer when we can make 18 per cent on the investment." He suggested that the use of credit was a necessity if the farm business was to expand and show progress.

Operator A's use of credit was usually preceded by a careful and exhaustive examination of the situation to determine whether the use of

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[3]Although little definitive evidence can be presented either in support or refutation of this opinion, it is believed that the Township Program was important in developing the leadership qualities of Operator A. This intensive program offered excellent opportunities for farmer participation and permitted these participants to become committee members or hold offices. It was noted previously that Operator A had taken on various of these responsibilities during the five year period.

credit in that particular instance would be profitable. The operator indicated that it was at such times that the township program had proven its usefulness to him through the farm business analysis and the accurate farm accounts which were maintained. The agent was also indicated as being particularly useful to the operator at such times ". . . because his intimate knowledge of the farm business permitted him to help me make the right decisions." The operator suggested that no other individual would be in the position to assist in such crucial decisions and that this function of the township agent was valued highly.

Managerial processes of the operator. If the presupposition is accepted that managerial ability can be measured to some extent by the operator's knowledge of the consequences and alternatives which exist for a given decision, then Operator A was one of the better managers of those in the study. When presented with the hypothetical situation of deciding whether to buy 40 acres of additional land, his knowledge of consequences and the careful consideration of alternatives would indicate the ability to reach sound decisions.[4]

In studying the managerial ability of Operator A, it is of interest to examine the extent, if any, to which the Township Program may have enhanced that ability. It would seem likely that such an intensive educational program should enable its participants to become better managers by reason of the relevant and current information which the program supplies. This fact was mentioned by the operator as being important

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[4] A "sound decision" is meant to represent a decision which is in accord with the value structure of the individual and is conducive to the realization of the goals of that individual and his family.

in helping him reach decisions and utilizing the newest in farm practices. He suggested that an additional important function of the program was developing in the farmers an awareness of good management and its importance in the profitable operation of the farm.

Family B

Goals and values. In explaining the progress of this family, it is necessary to consider the important role of the operator's value system.[5] His value structure was one which gave extremely great emphasis to farm ownership and good farm management. He remarked that owning his farm had always been of importance to him, and at the time the township program was initiated (1953) had considered this uppermost on his list of objectives. The value placed upon sound management is evidenced by his decision to resign from his church board and his position as president of the Township Association. This, he said, was necessary in order that he "might do a better job of farming." The importance Operator B attached to management to the exclusion of some social activities was in sharp contrast to the values emphasized by some of the low change managers, particularly Operator Y.

Operator B's ambition of becoming a skillful manager is particularly interesting when it is noted that his father was rather unsuccessful in this respect. The realization of this fact by Operator B may have encouraged him to rise above his father's low level achievement and thus may be an important element in accounting for the progressive

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[5]The difficulty of determining an individual's value system is recognized forthwith, and it is not suggested that such has been identified in this instance. Rather it is believed that the goals of the operator are indicative of his value structure and it is only through the recognition of his goals that insights can be obtained relative to his value system.

strides forward that he has taken.

A valuable adjunct to his goal of land ownership and the desire for progress and achievement was his capacity and liking for physical labor. He remarked that he "felt best" when he was working hard, and that the long hours required of farm life "never bothered me." The township agent's statement that "He knows just where he is headed; he's got lots of drive, a good set of goals and the ambition to get there," is descriptive of the personality and behavior of this individual.

Decision making ability. Operator B's capacity for hard work was matched by his ability to reason out problematic situations and to come up with logical and reasonable solutions. Exhibiting considerable independence at times, he was seldom willing to accept immediately the recommendations of the township agent without first having studied them carefully.[6]

His approach consisted of first gathering information from many sources--the agent, farm magazines or friends--and then evaluating this information in terms of its validity and usefulness to him. After careful study in this manner he was prepared to draw his own conclusions and then support and defend the decision he had reached. Although his independent attitude through this procedure was somewhat annoying to the agent, his facility at thinking through such situations and of considering the consequences of the various alternatives would suggest that he possessed considerable problem solving know-how.

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[6]His independent attitude is shown by the incident involving the purchase of the farm upon which he now lives. He was advised by a state extension specialist not to purchase the farm at that particular time but failed to heed this advice. He remarked that his "mind was already made up," and this was apparently sufficient to override any suggestions from extension personnel.

Participation in the program and attitude toward the Extension Service. Family B had developed no contacts with the Extension Service prior to the Township Program and, like Family A, had received little assistance from the county agent. In view of the great change which had occurred in this regard during the five years, it is of interest to examine the chain of events which led to Operator B's active participation in the program and his reliance upon the agent as a source of information.

His first contact with the program resulted from a question he faced in regard to the recommended amounts of fertilizer to apply. Sometime later the agent was called upon for information as to the recommended crop varieties to seed. Then, questions about the dairy enterprise arose. Eventually the agent was called upon for advice concerning the integration of the various enterprises. The outcome of this entire process was the agent's invitation to examine the farm business records and to assist in their analysis. The time required for the agent to be fully accepted by Family B was nearly two years During this process Operator B was discovering for himself the program's usefulness to him. This fact served to break down any existing barriers which had previously prevented more effective cooperation between the agent and the operator.

On the whole, Operator B had developed a great deal of interest in the program during the course of its five years of operation Already noted was his election to the association presidency in 1956 and his membership on various committees during this period. He had utilized the services of the agent and had put many of his recommendations into operation on the farm. However, Operator B was somewhat hesitant to attribute these elements of progress to the township agent and instead

suggested that "Maybe I would have learned these things without the program.

Although Operator B's participation in the program had steadily increased during the period he suggested that his need for the services of the agent were not as acute at the end of the period as they had been in the program's earlier stages. This he attributed to the fact that the farm business accounts had been established, the various enterprises were thought to be organized near the point of maximum profitability and no longer was the agent needed for assistance in the making of decisions . . . because a fellow should naturally get smarter and wiser as he grows older and gains experience. This observation would suggest that the program may have had the desired effect of developing managerial ability in its participants as well as demonstrating new techniques and providing an important source of information.

It is of interest to examine the influence which the Township Program may have had upon Operator B's participation in other formal community organizations. His social participation index in 1953 was 103, and in 1957 had increased to 193. During this period, Operator B (who had been characterized as an introvert by the township agent) held the offices of vice-president and president in the township association as well as membership on several committees. He had also been elected vice-president of the local Farm Bureau group, and in 1957 was elected to the school board. Although it is impossible to state this conclusively, it does not appear unreasonable to suggest that Operator B's increased participation in the Township Program may have been the initial element which resulted in this great increase in formal participation.

A feasible line of reasoning would be that his participation in the program resulted in his appointment to an association committee. By virtue of his outstanding work on the committee, he was elected to the association board. Other board members then elected him to the vice-presidency of the association. Thus as his qualities of leadership and his abilities to shoulder responsibility were discovered by others in the community, he was elected to positions of greater and greater responsibility.

Family C

As the children of this family were quite young and thus unable to participate in the operation of the farm, little can be said of the extent to which the family worked together in attaining common goals or the extent to which each member participated in the decision making process. It was apparent that the operator played a dominant role in the operation of the farm and in the reaching of important decisions.[7] Although his wife was interested in the operation and took an active part in the farm chores, there was some doubt as to whether she fully comprehended the scope of this relatively large operation. Her role was one of supporting her husband in his decisions, a task which she did faithfully and resolutely.

Value structure and goals. Operator C placed great value upon the development of a large farm operation and expended a phenomenal amount of physical effort in working toward that goal. This emphasis he gave to "bigness" as well as the extremely long hours he spent on the farm

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[7]Because of the dominant role played by the husband in the operation of the farm, the views gathered by the investigator are applicable in most instances to him individually, rather than to the family as a group.

would distinguish him from the other five operators. Although his feelings that he "didn't have time for vacations" are not necessarily condoned as being the mark of a successful manager, they are indicative of his ambition and desire for advancement. Apparently he and his wife placed little value upon extensive travel, leisure time, or a luxurious home, and instead recognized the necessity for personal effort and sacrifice if the goals were to be attained.[8]

His goals for the years beyond 1957 were also illustrative of his objective of developing a large organization. Included in these were a continued expansion in the size of the dairy herd from 60 to 100 cows and the purchase of additional land if it were of "good quality and located right." (At this time Operator C was farming 510 acres of which he owned 176).

The use of credit. A second important element in explaining Family C's progress was their use of credit in the farm business. Operator C's attitude toward the use of credit was described by the township agent as being ". . . fearless, almost reckless."[9] The extensive use of credit in this operation is evidenced by the fact that in 1953 the family had

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[8]The latest in farm machinery and equipment found on this farm contrasts somewhat with the much more modest appearance and furnishings of the farm home. This suggests some contradiction of Wilkening's findings which indicated that high adoption of improved farm practices and modern techniques is associated with high adoption of modern housing and home equipment. In the case of Family C this contradiction is explainable on the basis of their rather unique value structures which valued the development of a large organization so highly. See Wilkening, Eugene A., Adoption of Improved Farm Practices as Related to Family Factors, Research Bulletin 183, University of Wisconsin, December, 1953.

[9]This operator's attitude toward the use of credit is not to be understood as being desirable in all situations. It is only recognized as being an element responsible for the great changes that have occurred on this farm and should not necessarily be considered a requisite for sound management.

been free of debt, yet by 1958 almost $36,000 of liabilities rested against the business. In this regard Operator C suggested The expense involved in making changes is not too important to me. I don't ever have trouble sleeping at night. I always say that more money has been made with borrowed money than with your own."

He was not concerned with this debt load nor the fact that its value changed little from year to year (that is, as old obligations were paid off, new ones were taken on). Rather he believed that the use of credit was a means of keeping his farm organization "in balance." Thus, with the expansion of his dairy herd, the milking system was modernized. The expansion of his dairy herd also necessitated the purchase of a silo. This, in turn, led to the purchase of an unloading wagon, an auger bunk, and a hay chopper, all of which was done with credit. This suggests the process of change to be a continuous procedure in the farm business, which in this instance developed from the single decision to enlarge the dairy herd.

It is of interest to examine the extent, if any, to which the Township Program may have influenced the remarkable change in the use of credit by this family. Operator C was the type of individual who, before he was willing to put his ideas into effect, required some assurance they were profitable and worthwhile. The township agent was the individual upon whom he relied for this needed assurance. The assurance Operator C received from the agent may well have been the factor which was required before he was willing to undertake the many changes, and consequently, may be important in explaining why he used credit so extensively during the later years of the program.

Attitude toward change. As has been suggested by previous discussion, Operator C was willing to accept any change which would aid him in attaining his objectives. He was possibly the most avid seeker of information and new ideas applicable to his farm business of any of the six operators. However, in contrast to the methodical analysis employed by Operator B before a new practice was employed, Operator C tended to follow advice of the agent with fewer reservations. His approach in most instances was that of obtaining ideas from farm magazines or his neighbors, then confirming the validity of the ideas with the township agent. If the agent indicated that the idea was satisfactory, it was put into practice very shortly. In this regard, the agent had suggested that Operator C ". . . may accept ideas too readily."

The feelings which Operator C had toward making changes in his farm organization may have undergone a significant alteration as a result of the assurance offered by the agent that these changes would likely be profitable and useful. Thus, the assistance provided by the agent in these instances may well have been the element which encouraged the operator to actually carry out a contemplated change. Some evidence of this is reflected in his statement, "Now, I am not afraid to make changes on my farm. I am not worried about the criticisms of my neighbors like I used to be." Operator C stated that many of the changes he had made during the course of the program had evolved from ideas held previous to 1953, but "I just wanted to check with the township agent before I put them to use." This behavior in Operator C would suggest that where there exists some concern about the "criticism from the neighbors," the role of the extension agent as an "assurance giver" is a significant element in promoting change.

Attitude toward the Extension Service and the Township Program. Operator C had relied upon the Extension Service to considerable extent prior to the coming of the Township Program. This reliance consisted of the assurance from the agent that his farming operation was in accord with approved standards. He also used the county agent as a source of information which might profitably be utilized in the operation.

With the coming of the township program, Operator C shifted his allegiance from the county agent to the township agent and became an enthusiastic supporter of the new program within a short time. Although his farm was not located in the township in which the program was operating, he rented additional land in this township in order that he might be eligible for [illegible]. He remarked that the renting of this acreage was not profitable in itself, but that the benefits accruing to him as a result of his participation in the program more than offset any losses he might have experienced from the rented acreage.

His reliance on the township agent during the early years of the program was of a different nature than that of Operators A and B. Rather than asking for assistance in regard to decisions of major importance, Operator C requested advice on a great multitude of farm problems and relied upon the agent for many of the almost trivial decisions needed in its operation. The agent remarked that "We have just about made all of his management decisions. Why, we even helped plan his vacation."

It was noted that Operator C's heavy reliance upon the agent during these early years was altered somewhat as the program progressed. Possibly Operator C had developed his managerial skill and the confidence in himself

to the point where he no longer required the assistance of the agent for such minor decisions. Even though he relied upon the agent to a great extent during the latter months of the program, this consisted of advice and assistance in regard to major farm decisions. He remarked "Now we talk in terms of thousands of dollars instead of in hundreds of dollars as we used to." This instance, as in the case of Operator A, indicates that the program was significant in developing the managerial ability of the operator. The program may have encouraged Operator C to think for himself, but more importantly served to develop confidence in his own decision making. When asked whether the township program had increased his proficiency in reaching sound decisions, he indicated that its function of supplying information had been important to him in this respect. He also suggested that the township program had been of value to him by making him ". . . more aware of what good practices are and more interested in the trends and level of farm prices."

Family X

It is to be noted that this family is the first of those who have been classed as "low changers." The approach will necessarily be somewhat different than that employed with the previous families. Rather than attempting to isolate the elements resulting in advancement as was done with the three previous families, the procedure will consist of an attempt to isolate the factors responsible for the relatively few changes these three families have made. As was done previously, these causal elements will be discussed in the order of their importance as they appeared to the investigator.

Managerial ability. Bradford and Johnson have suggested that the task

of the manager includes, among other things, the making of decisions and the taking of action on the basis of these decisions.[10] It is believed that Operator X performed these two functions somewhat ineffectively in the operation of the farm. Evidence of some lack of ability to reach sound decisions was seen in the hypothetical situation presented to Operator X in which he was asked to elaborate on how he might proceed in reaching a decision. In discussing considerations involved in buying additional land, he could think only of the price and the location of the land as being important. This was in sharp contrast to the much more complete elaboration of alternatives and consequences offered by the three previously discussed operators when presented with the identical situation.

Some evidence that Operator X was not adept at executing his plan of action was suggested by an examination of his farming operation and in speaking with the township agent. The chore of dehorning the feeder steers was long overdue but was dismissed by Operator X with "I just didn't get around to it." The township agent indicated that a very detailed plan of action had been developed by the agent and the operator to facilitate the orderly and timely marketing of the steers. Of this he said, "I'd pin-point things to the day when he should do these things, but it just didn't seem like he would find time for them."

This apparent lack of motivation can be attributable to one or several factors. Operator X had been experiencing some difficulties with his health in recent years--a factor which might be responsible

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[10]Lawrence A. Bradford and Glenn L. Johnson, Farm Management Analysis, (New York, Wiley and Sons, 1953), p.3.

for his lack of ambition and initiative. Also, he had been employed full time in an off-the-farm job for the past several years. This fact might suggest that a shortage of time and labor was responsible for this slovenly management of the farm. Although in this regard, it should be noted that the oldest of the children a 17 year old son, should have been capable of shouldering some of the responsibility of operating the farm.

Goals of the family. The vagueness of the goals held by Family X would suggest that the family had never clearly crystallized their objectives for the future. The objectives which had been given by the family as being of importance at the outset of the program (1953) indicated that the family placed little value upon expanding the operation and developing a profitable organization. These included such things as "improving the looks of the place," "putting down a basement," or "buying some furniture for the living room." When asked about the goals for future years, Operator X stated "Well, I suppose we'll just try to paint the buildings and keep things up."

The possibility of purchasing additional land was dismissed by Operator X with "No, I have never considered expanding my acreage because we didn't have the money to buy more land, and I don't go in too heavy to borrow money because of the riskiness involved. We found out it wasn't so important to work all the time. We just decided to enjoy life a little instead of working day and night."

Use of credit. The previous discussion has suggested that Operator X did not favor the use of large amounts of credit in his farming operation although he had used credit for the purchase of livestock and

machinery. Operator X's conservative attitude toward credit and his unwillingness to undertake the 'risk' involved in its use was supplemented with a similar belief by his wife. She had been characterized by the agent as being extremely conservative in advocating the use of credit for productive purposes, but apparently saw nothing amiss with purchasing home furnishings and appliances on 'easy' payment plans.

Participation in the Township program. Operator X had taken an early interest in the program and was one of those who had actively tried to 'sell' the program to the farmers of the community. He believed it to be a valuable adjunct to ". . . those who haven't had a chance to get more of an education," and participated in its activities when his off farm job permitted him to do so. He remarked that his working hours often prohibited him from attending the program meetings which he felt would have been beneficial to him.

Although Operator X was an active participator in the program and relied quite heavily upon the township agent for information, his farming operation did not incorporate the use of a large number of improved practices. This fact contrasts strongly with the situations existing in the three previous cases (Families A, B and C) and also to the findings of Bohlen and Beal who suggest that participation in the activities of the Extension Service is associated with high adoption of improved farm practices.[11] It also demonstrates that participation in the program and maintaining frequent contacts with the agent is not always sufficient to result in progress. Apparently in this instance, the operator's managerial handicap and lack of initiative overshadowed any benefits he had obtained from the program.

Self image and wife's dislike for the farm. The apparent misconception

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[11]George M. Beal and Joe M. Bohlen, op. cit. p. 8.

which the operator had of the production level of his dairy herd and his wife's dissatisfaction with farm life may be additional elements in explaining the lack of progress of this family.

The Hess-Miller study suggested that a manager's misconception of the level of output of his resources may be a factor responsible for his low level of performance.[12] Thus, if the manager feels his dairy herd is producing at a much higher level than it actually is, he may be content with this level of production and make no efforts to improve. Indications were that such was the situation in this case. When asked about the yearly production levels for his dairy herd relative to those of other herds in the county, Operator X replied that his animals would rank approximately in the upper third of all herds in the county. However, an examination of his herd average revealed a production level of somewhere less than 6,000 pounds of milk per cow per year, a figure considerably below the top one-third of all herds for which records were available in the county.

The second variable of significance in explaining the family's lack of progress may be the wife's dislike for farm life. With the supposition that farming represents an integrated family effort and an operation which requires the moral and physical support of all family members, it seems reasonable to believe that Family X may have been handicapped to some extent because of the wife's feelings about farm life. This factor apparently was responsible for the farm at one time being put up for sale. Operator X had indicated that leaving the farm ". . . would have made my wife a lot happier." The wife's comments are illustrative of her feelings in this regard: "I was born and raised in

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[12]C. V. Hess and L. F. Miller, op. cit., pp. 20-23.

the city, and I guess I never did get accustomed to farm life. I just don't like to feed all the hired help we have around here, and it always seems like out here all the money we make is spent back on the farm and not in the house."

Participation in community activities. Family X was the most inactive in the formal and informal community activities of the six families. This low level of participation did not permit the family to come into contact with more progressive farm people and thus may have reduced Operator X's opportunities to learn of new techniques and farm practices. With the assumption that formal and informal activities may serve as important sources of information to farm families, it seems that Family X probably did not have access to as many channels of information as their more active neighbors.

Family Y

Value structures of the operator and family. Very important elements in explaining this family's perpetuation of the status quo were the value structures and the goals they possessed. Although the family members appreciated farm life, they appeared to enjoy it more for the freedom it afforded them rather than the opportunities it might offer for possible advancement in return for individual ambition and initiative. Operator Y placed a high value upon maintaining a closely knit family group and strived to maintain the "togetherness" which characterized this family. Only of minor importance was the sound management of the farm. Of interest in this regard was his comment, "Everytime I want to go fox hunting, I should be picking corn."

Both the husband and wife participated in the social organizations of the community and were extremely active in the Grange and Farm

Bureau. This active participation in these organizations is indicative of the value which the family placed upon social activities and did not appear to reflect the desire to use these organizations for sources of ideas and information which could be profitably incorporated into the farm business. The family also placed a great value upon being socially accepted in the community. Of this Operator Y remarked, "We enjoy the sociability of these things. I don't know how much you learn from them, but you always have a good time at the meetings. I think a family should take part in these activities if they want to be a part of the community."

The family attended many school functions and were particularly enthusiastic followers of local athletic teams of which the sons were members. Operator Y indicated an interest in organizing and managing a "little league" baseball team if his off farm job would permit him more free time. The township agent stated that 'Family vacations and doing things together have a high priority for this man. He just doesn't seem to get a kick out of producing ten more bushels of corn per acre."

Goals of the family. Although the farm was made up of some very productive soil, Operator Y was apparently little interested in developing its full potential through sound management and the installation of a tiling system. The objectives of the family were not those conducive to the expansion and development of the farm business. Although the sons were reaching the age where they could supply a large amount of labor to the farming operation, there had been no attempt to expand the operation to utilize this resource. When questioned as to his objectives for future years, Operator Y replied, "We'd like to take a trip out

West before the boys leave home. We also want to fix up the farm a little."

The modesty of his goals for the years ahead ran parallel to the apparent satisfaction he experienced for the progress he had made in the past. Indicative of this was his statement, "I have always wanted to own a farm. As far back as high school I used to think about it. Even though I owe some money on this farm, I think I have almost reached my goal." It appeared that the family was satisfied with past accomplishments and had little desire to accept new responsibilities or additional financial obligations which might be incurred with the expansion of the business.

Management of the farm. Operator Y's work as a 4-H leader had encouraged frequent contacts with the township agent, but he apparently benefited little from this association with regard to information useful in the more profitable operation of the farm. Operator Y indicated that the program had been of value to him largely through the assistance it had given him in his fertilization problems. His conception of the program's usefulness to him seemed to rest largely upon the information it could offer in regard to the correct amount of fertilizer to apply. He apparently failed to appreciate the broader potential of the program in helping him integrate the various enterprises of the business into a more profitable unit.

He stated that he had never used the township agent to assist him with farm records or in an analysis of the farm business. This point is of interest when it is noted that the three high change operators indicated that this phase of the program had been the most valuable to them.

The fact that Operator Y had not called upon the agent for this assistance would suggest that he was not willing to let the agent become familiar with the financial side of his farming operation. In this regard, it is noted that Operators A, B and C, considered it essential for the agent to have complete knowledge of the financial aspects of the business ". . . if he is to be of any real help."

Operator Y appeared to have some misconception of his managerial ability. Even though net farm earnings were a negative figure in 1957 and few recommended practices were employed in his business, he still considered the management of his farm as being "somewhat better than average." The township agent suggested that the managerial element was so poor in this case that the family would have realized higher earnings from the farm had it been rented to a more capable operator. This misconception by the operator of his managerial ability suggests some support of the Hess-Miller findings that the picture a manager has of the level of output of his resources will determine the extent to which he strives to improve that level of performance.

Additional elements. Factors which may be of lesser importance in explaining this family's lack of change may be the operator's conservative use of credit in the business or his off-farm job which may have prevented him from devoting his best efforts to the management of the farm. An element which would also receive some consideration is the unfortunate outbreak of Bang's disease in his herd during the summer of 1955. This incident doubtlessly affected adversely the morale of the family and may have served to reduce the initiative necessary to realize progress and advancement.[13]

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[13]Although the same circumstances befell high change Family C, it should be noted that Family Y's capital structure may not have been of sufficient strength to withstand this shock.

Family Z

This family is unique in the sense that it was the only one of the six being studied who was overtly opposed to the township program. Although the operator agreed to participate in an evaluational study of the program, he had never called upon the agent for assistance during the period in which the program was operative.

Some consideration of the neighborhood in which the family lived may be enlightening in explaining this attitude toward the program. This neighborhood was comprised predominantly of older and retiring farmers who had through the years had consistently maintained a bastion of defense against the Extension Service. This attitude held by the neighbors toward the Extension Service had apparently persisted with little alteration during the five year period.

The very limited contacts the family had developed with the program during the period would suggest that the program may have had very little impact upon the family. The validity of this statement deserves further investigation and an attempt will also be made to discover the elements behind Family Z's resolute refusal to accept the program.

Attitude toward change. The neighborhood in which this family resided has been described as being made up of older and retiring farmers who were generally inactive participators in the extension program. In such an entrenched community it would be hypothesized that one would find an adherence to family tradition and to values rooted in the past with relatively little emphasis placed upon individualism and change. This was apparently true in the case of Family Z.

Operator Z had acquired the farm from his father at the time of the father's death and had not bothered to change its organization

at that time or in the years following. He was quite content to continue the operation much as it had been done by his father. Some suggestion of Operator Z's conservative attitude toward change is noted in his statement that a very useful source of information for operating any farm came out of contacts with ". . . those old line, well established farmers."

Attitude toward the program. Operator Z's opposition to the program may have been partially attributable to his failure to fully comprehend the organization or the function of the Extension Service or of related governmental agencies. He indicated that he knew little of the organization of the Township Program or of the role it was to play in assisting farmers. He envisioned the functions of the Soil Conservation Service, the township agent, and of the county agricultural agent as being overlapping, thereby resulting in ". . . a waste of the taxpayer's money." A comment illustrative of his confusion in this regard is his question, "If the SCS is for soil service and the Township Program is for farm planning, what's the county agent for?"

Even though the family was outwardly opposed to the Township Program, there appeared to be a desire on the part of the operator to learn more about the program and to use some information available through it in his own operation. Apparently the pride possessed by the family and the resulting reluctance in asking for assistance prevented them from developing additional contacts with the program. Operator Z had at one time indicated that he would " . like to look into the program," and felt that it ". . . might be of some use to

him."[14]

Political philosophy. With the entrenched attitude toward change noted earlier, Operator Z had a unique political philosophy characterized by a strong dislike for the Farm Bureau and the Republican Party. He was a staunch advocate of the Farmers Union and failed to recognize anything desirable in the principles of the other farm organizations This appeared to have a direct bearing upon his attitude toward the township agent and the Township Program. In this regard he remarked, "I know the Extension Service and the Farm Bureau are closely linked. I think the township agent belongs to the Farm Bureau. This is wrong. He shouldn't belong to an organization like this in the work he is doing. He should take a middle of the road stand and not commit himself."

His dislike of the Republican Party may have advanced to the extent of influencing his thinking in regard to the future of his farm and his objectives for the future. He remarked that the plight of the farmer would continually worsen ". . . as long as those men (Secretary of Agriculture Benson and President Eisenhower) are in power." This belief had served to reduce his goals for the future to ". . . just making expenses and feeding the family." Needless to say, such a bleak outlook for the future of agriculture was supported by a very conservative attitude toward the use of credit in the farming operation.

These objectives of the operator, reflecting his pessimistic

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[14] If such a situation is known by the agent to exist these barriers might be removed by tact and understanding and a harmonious relationship be established between the program and the family.

and skeptical outlook, are certainly not those which would be stimulating to the family members but are conducive to a "what's the use" attitude. It would seem likely that such an attitude on the part of the entire family would not encourage progress. It appears to be a significant factor in explaining this family's stationary state.

An additional element of significance was an apparent lack of desire by Operator Z to improve his level of performance as a farm manager and the level of performance of his dairy herd. The question was asked as to where he would have ranked himself as a farm manager five years ago, at the present time, and five years hence, in comparison to operators in similar resource situations. His answer indicated that he felt he had been, was at the present time, and would remain in the future, in the lower third of all operators being considered. He also indicated that his dairy herd in regard to production would rank near the bottom both in the past and in the future. It is suggested that this belief that he would continue to rank in the lower third in regard to his ability as a farm manager would reflect a lack of desire to improve this ability.

CHAPTER V

CONCLUSIONS

A primary objective of this study was to isolate those factors influencing or resulting in the wide divergencies of progress which the various families exhibited. In this regard, a number of suppositions were offered in Chapter II as possible explanations. Although the scope and nature of the investigation does not permit the statistical testing of these hypotheses, certain general conclusions are warranted regarding their usefulness and validity in these particular cases.

Explanation of Differences in Progress

The High-Change Operators. As was hypothesized, the high change operators maintained a generally favorable attitude toward the Extension Service during the five-year period. However, two of these individuals continued to possess certain reservations regarding the usefulness of the county agent to the individual farmer. The township program was considered by these operators as being extremely valuable to them in the operation of the farm business. Although one of the individuals was somewhat skeptical of the program in its early stages, this skepticism was later overcome and he too became an active participator. Each of the high change individuals had been elected to an office in the Township Association sometime during this period.

All of the high change families exhibited a keen interest in farming and were apparently intent upon making the business a profitable

one. The family members who were old enough to do so took an active part in the operation of the farm. The strenuous physical labor and the uncertainties often encountered in farming were recognized as necessary elements of this way of life and were not regarded as serious disadvantages.

The value structures of the high change individuals, to the extent that these are ascertainable, reflected a great deal of initiative and the desire for advancement and progress. The goals of these families were generally well thought out, giving support to the hypothesis that the extent to which a family has crystallized its goals will determine the extent to which they are achieved. Also noteworthy was the challenging nature of these objectives which reflected not only the planning the families had done in this respect, but also their ambitions to realize progress.

Particularly significant in the high change families was the wide use of credit in the farm business. Credit was recognized by two of the operators as a necessary element if the organization was to show profit and progress. One of these families had moved from a debt-free position to the extent of having some $36,000 of liabilities resting against the business. It was suggested that the Township Program may have been of significance in this instance by virtue of the assistance it gave the operator when contemplating changes which required credit.

Another closely related factor in this regard was the wise management of credit by these operators. In most instances any change requiring the use of credit was preceded by a careful analysis

of its profit potential. Also noticed was a reluctance to use credit for consumption purposes.

Although the managerial ability of an individual is recognized as extremely difficult to evaluate, the techniques used in the study, supplemented by observations of the agent, suggested that these operators were quite proficient in this respect. Two of them indicated that the Township Program had been of value in developing this ability through the current information it supplied.

The Low-Change Operators. An examination of the low-change operators revealed a substantially different set of values and goals. Absent to a large extent was the emphasis upon achievement and progress that had characterized the high change group. In some instances goals other than a profitable, well-managed farm were in evidence. Thus one family valued highly the participation in various social activities of the community.

The vagueness of the goals which the low change families held suggested that these individuals may have given relatively little thought to the future. In instances where goals were explicitly and concisely stated, their modest nature suggested that these individuals would be content with smaller achievements than those anticipated by the high change families.

Managerial ability among the low change group was not as proficient as that of the high change operators. An apparent misconception of this ability by two of the low change managers may explain their lack of desire to improve in this regard and lends additional support to the Hess-Miller hypothesis.

The low change operators exhibited a great reluctance to use credit

in amounts larger than those necessary to meet production expenses One of the operators suggested that the 'risk' involved in credit use was the element which had prevented him from expanding his operation. Another saw an extremely dark future for agriculture and consequently was hesitant to extend his use of credit. In contrast to the high change families, two of these operators had used credit quite freely in the purchase of home furnishings.

Comparison of High and Low-Change Families. A comparison of these two types of families is particularly valuable in examining the usefulness of the various hypotheses. It was hypothesized that a family's attitude toward the program and their participation in its activities would be of significance in explaining progress. It was believed that a favorable attitude in this regard along with active participation in program activities would be associated with change. These suppositions were completely true in regard to the three high-change families. All high-change families were active participators and maintained generally favorable attitudes toward the program. The converse of these hypotheses were, of course, valid in the case of one of the low-change operators. His attitude was generally unfavorable toward the program and consequently he did not participate in program activities.

However, two of the low-change cases were exceptions to these suppositions. Both of these operators recognized the program as being of value to them. One of these had expended a great deal of personal effort in attempting to establish the program in the community. Although both had developed frequent contacts with the agent and apparently had held favorable attitudes toward the program few changes had

been undertaken by either.

A second hypothesis suggested that the socially active family (particularly in regard to farm organizations and the Extension Service) would be most likely to exhibit progress. This was also generally supported by the high-change families and its converse by two of the low-change families. One of the low-change cases however, had been very active in these organizations but exhibited very little progress during the five-year period.

The hypothesis that a favorable attitude toward farm life would be conducive to progress found the least consistent support of those here considered. All of the families (both high and low-changers) exhibited an appreciation of farm life. (A minor exception was the wife of one of the low-change operators.) It is possible however that these various families may appreciate farm life for diverse reasons. Thus, there was some evidence that the high-change families appreciated farm life because of the opportunities it offered for advancement in exchange for hard work and initiative. On the other hand, certain of the low-change families may have appreciated farm life because of the freedom and independence it permitted, a reason quite apart from that exhibited by the high-change group and possibly of some significance in explaining the various degrees of progress which were noted.

Certain of the hypotheses offered at the outset of the study do appear to have considerable merit in explaining progress or the absence of it. One of these was the Hess-Miller idea that the conception which a manager has of the quality of his performance will determine the extent to which he attempts to improve that performance. This was

particularly well supported in the case of one low-change operator. Thus his low level of performance as a manager may be attributable to the misconception that he was 'above average' in this respect. A second low-change operator, however, fully recognized his limited ability as a manager, but indicated no desire to improve in this regard.

The extent to which a family has crystallized their goals and the nature of these goals was seen to influence the extent to which these goals were achieved. A favorable attitude toward the use of credit, a recognition of its necessity, and its wise management were all associated with progress and change.

As has been suggested, the nature of the study has prevented confirmation of these hypotheses in the statistical sense. However, their usefulness in this investigation indicates that they are worthy of further consideration and might profitably be incorporated into studies of a nature which would permit more rigorous testing of their validity.

Impact of the Township Program

A second objective of the study was to determine the impact of this intensive extension program in promoting the changes which have occurred in farm organizational structures and in individuals. The difficulty of this task is magnified because little is known of the changes which these families have made in years prior to the Township Program, nor of the elements which might have influenced these changes. Regardless of these difficulties, however, a number of conclusions have evolved out of the investigation.

The Township Program was regarded by all of the high-change operators as a valuable asset to them and was recognized by each as a

reliable source of information. They considered certain aspects of the program, notably the farm visits and the farm business analyses, as particularly useful.

The important role of the agent in many of the crucial decisions made by the high change operators would imply that the program was of considerable significance in promoting these changes. In this regard it is noted that the advice of the agent was important in encouraging two of these individuals to purchase additional land. The role of the agent in a great many of the managerial decisions of one of the operators was also noted.

Although one individual exhibited some reluctance in acknowledging the Township Program as the element responsible for the changes he had made, the agent's important role in supplying technical information and advice in regard to many of these changes would suggest that here, too, the program was a very significant element.

The impact of the program upon the low-change families was possibly less significant in promoting change. However, it is noted that the advice of the agent was the influencing factor in the decision of one operator to develop a steer-feeding program. Another attributed his increased intensity of fertilizer application to suggestions he had received from the township agent. These examples, as well as others which were noted, suggest that the Township Program may well have been the dominant causal factor in promoting the relatively few changes which this group of families had made.

Although the program would usually be considered to have the greatest impact upon the active participators, the study indicated that non-participators may learn of new techniques from their participating neighbors. This fact would suggest that the impact of the

program, although difficult to evaluate, may be more significant in promoting change than an examination of the participating farms would indicate.

The author's association with those families who were an integral part of the Township Program has suggested other desirable elements, which may not necessarily be associated with the promotion of change, but which could feasibly be attributed to the Township Program. The opportunities the program afforded participants in regard to holding offices, being members of committees, and serving in various other capacities associated with the program may have been of importance in developing latent leadership qualities in these participants. Noted in this regard was the case of one of the high-change operators who became an active member of various community organizations and was elected to responsible positions of leadership during this period.

Other ramifications of the program are concerned with the intangible benefits which accrued to those individuals affiliated with it. Although the objectives of such an educational program are often couched in terms of higher yields and income, many of the benefits of the program were not of such a tangible nature. The participating families expressed the feeling that many of these benefits could not be measured with dollar values, but represented the welfare and satisfaction arising out of the increased social interaction the families experienced through the participation in the activities of the program. These families acknowledge that new acquaintances, both within and outside the community, had been made. New sources of information and ideas were developed, and a new sense of unity and cooperation pervaded the community. It is important that these elements be considered

when an evaluation of the program is undertaken, or when similar programs are being contemplated.

The Process of Change

A third objective of the study was that of obtaining insights into the process of change. It was felt that the close contacts maintained by the investigator, in conjunction with the complete records available on each family, would present an excellent opportunity to examine the process by which change occurs on individual farms.

The difficulty of this objective was recognized at the outset and, as the study progressed, the elusiveness of this element became apparent. Although it is acknowledged that the investigation may not have been particularly successful in turning up the desired insights, a number of hypothetical conclusions appear to be cogent.

It is suggested that the process of change in the farm organization may not always be the outcome of an unusual occurence of considerable magnitude or a striking experience in the lives of those involved, but more realistically may be thought of as the end result of the interplay of a wide variety of dissimilar forces. These forces may include such diverse elements as the weather, family health, farm prices, an outbreak of crop or livestock diseases, the availability of land for purchase or rent, crop yields, institutional elements, accidents or windfall gains, availability of credit, etc. These elements may interact in such a way as to eventually result in a change in the organization.

The conceptual scheme can be broadened if these forces are considered as being either positive or negative in nature. They may be classed as positive when they are conducive to the production of a

progressive change, and can be considered negative when they serve to inhibit such a change. Thus, a progressive change occurs when the total of all positive forces exceeds the total of all negative forces.

The Township Program may be an important element in providing change by serving as a positive force. The advice, encouragement, and technical assistance given by the township agent all represent positive forces and may serve to overcome a series of negative forces which had previously prevented a change from [illegible] plan of action.

It is further suggested that the process of change may be seriously inhibited by a new limiting factor. This may be a powerful negative force as it was in the case of the low-change operator who apparently lacked the executive ability necessary to actuate his plan of action. Some evidence of this "limiting factor" may also be seen in the behavior of the high-change operator who has been characterized as an "assurance seeker." Although he possessed the large repertoire of profitable ideas, he required the assurance of the agent before he was willing to put these ideas into effect in his organization.

Difficulties Encountered in the Study. No objective analysis would be complete without an acknowledgment of difficulties and weaknesses encountered in the undertaking. Paramount among these in this regard is the danger of unwarranted generalization which was discussed earlier and will receive only cursory consideration here. The case study approach permits the investigator to become extremely familiar with the cases involved and thus may lead him to believe that an

explanation relative to the situation is valid in the 'universe.' This element limits to some extent the broader applications of these findings.

A second difficulty, not of course unique to this investigation, is the danger of faulty interpretation. This may reflect not only the biases or prejudices of the investigator but also his youth and inexperience.

The difficulty of obtaining some of the insights relative to value structures and goals reflects the dearth of satisfactory research techniques in this area. Consequently observations regarding values and goals are not to be regarded as infallible, but represent objective attempts to determine and evaluate these elements. Also, the technique employed in estimating managerial ability is not without question.

Certain difficulties arise out of the sketchy theory available for use in the construction of the research design. The theory employed included "hunches" of the author which appeared interesting and worthy of investigation, as well as elements gathered from a number of studies similar in some respects yet widely different in others. It was these considerations which suggested that this might most appropriately be termed an exploratory study.

Implications of the Findings

Although the exploratory nature of this study resulted in findings somewhat less than conclusive, certain of these observations appear to have implications for the development of future extension programs.

Of primary significance, perhaps, is the previously recognized

fact that the value systems of the recipients of an educational program are of signal importance in determining how well that program will be received. Thus the group placing emphasis upon change, progress, and education, will react enthusiastically and positively to the program, while the individuals valuing tradition, custom, and a perpetuation of the status quo will show a less favorable response.

This observation raises the question as to the stability and permanency of the individual's value system. Arising as it does out of the past experience, environment, and education of the individual, it probably represents an element of considerable stability and is, therefore, not susceptible to change in response to anything as ephemeral as an extension program. However, an extension program may do much to modify and crystallize the goals and objectives which evolve from that value structure.

The study has indicated the importance of selecting challenging and realistic goals. It has suggested that the choice of such is conducive to their attainment. In this regard the Extension Service can be of great assistance and should continue to develop programs which will aid and encourage families to give some thought to the future, to establish objectives for these years, and to develop plans which point the way for the realization of these objectives.[1]

Such programs would serve to direct the families' efforts, to permit them to recognize progress through the realization of less ultimate objectives, and to reduce demoralizing disappointment and frustrations which results when unrealistic goals are selected.

The attitudes of the family toward the Extension Service, toward

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[1] It is acknowledged that the Farm and Home Development programs are steps in this direction.

change, toward the use of credit, and toward farm life has been shown to be of significance in determining the progress which the family makes. It is recognized that attitudes are also an outgrowth of value structure but are probably more amenable to alterations than the value system. The importance of attitudes suggests that extension personnel should have some conception of the psychological and social elements involved in their formation, as well as how these attitudes, when they are deleterious to progress, might be most effectively changed. These considerations indicate the importance of extension personnel receiving training in the related areas of sociology and psychology.

The investigation has emphasized the significant role that credit plays in the modern farm operation and the importance of varying attitudes in determining its use in the business. With the assumption that this role will become increasingly significant in modern agriculture, a knowledge of where credit may be of value in the operation as well as the inherent dangers in its use will become of mounting importence to the successful farm manager. The Extension Service can be of greater assistance in this area by educating farm managers in the wise use of credit and assisting managers in obtaining credit, when it is needed, by familiarizing them with the various agencies with provide agricultural credit. This would suggest that future extension activities could profitably incorporate educational programs dealing with this topic.

An interesting observation evolving from the study has been the

very vague conception farmers may have of the Extension Service, including its organizational structure and its potential usefulness. Of the six farmers herein considered only two had developed any personal contact with the county agent previous to the Township Program. The remaining four individuals had never relied upon the agent for assistance, with one even stating, "I didn't know he was there to help." Although this situation may not be typical in other areas, it does point up the potentiality of an intensive Extension program in acquainting farmers with its services. These observations would also suggest that present extension programs may have failed to demonstrate with sufficient clarity how the activities may be of value to the individuals they are to serve. In this regard the case is recalled of the high-change operator who originally held certain reservations about the program. These reservations were dissolved only after the program had demonstrated its usefulness to him in the convincing terms of dollars and cents.

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