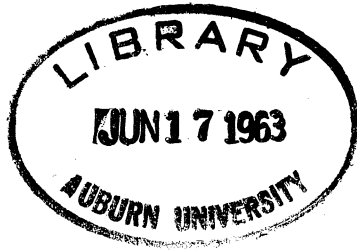


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PRODUCTION-CONSUMPTION Interrelationships of Alabama Farm Family Businesses



**Agricultural Experiment Station
AUBURN UNIVERSITY**

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PRODUCTION-CONSUMPTION

Interrelationships of Alabama

Farm Family Businesses¹

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NATURE OF STUDY

The farm (production firm) and the household of family farm businesses are so closely related that it is necessary that the two be considered as a unit in reaching decisions pertaining to economic resource allocation.

Exceptions and elements of degree exist, but interrelationships between the consuming household and production firm are stronger in agriculture than in any other industry. Some small-scale family operated industries may approach this interdependence, but it is generally foreign to major industries.

The farm and the household are engaged in production and consumption on a competitive basis on the family farm businesses. Competition between the two is for limited resources, especially capital. Competition also exists for labor, management, and land. As the farm and the household become more competitive for limited resources, the degree of interrelationship becomes greater.

¹ This report resulted from research conducted under Alabama Hatch 115, "An Economic Analysis of Farm and Home Managerial Opportunities and Adjustments in Alabama Agriculture." The authors gratefully acknowledge the assistance and cooperation of S. R. Doughty and his field associates, Auburn University Cooperative Extension Service.

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Many problems have confronted farm families in allocating limited resources between production and consumption. Until recently they have received little attention in managerial economics. This research was directed to an examination of problems of interrelationship between the farm business and farm household from both conceptual and empirical points of view.

The objectives in this study were:

1. To outline a framework of references as an aid in making decisions concerning resource allocation between the farm and the household.
2. To examine this framework in terms of farm and home management conditions in Alabama.

Importance of Study

The agricultural situation in Alabama is such that the degree of competition between the farm and the household is of serious magnitude. In a special USDA report to the Secretary of Agriculture, (4) the Southeastern States in 1955 were identified as the area with the greatest number of low-income farmers. Almost all of Alabama was in the "serious" category. Criteria considered in classifying this serious condition were: (1) less than \$1,000 residual farm income to operator, and family level-of-living index below the regional average, and 25 per cent or more of commercial farms classified as "low production"; (2) level-of-living index in lowest one-fifth of the nation; and (3) 50 per cent or more of commercial farms classified as "low production." This report to the Secretary of Agriculture also indicated other conditions that tend to create greater interrelationships between the farm and the household. Many of the farms are too small to fit today's mechanized farming. The report also showed that many farm managers fail to apply agricultural knowledge considered necessary for the successful operation of the farm. In the majority of cases, it can be assumed that if sound production and management practices are not applied to the farm, they likewise will not be applied to the household.

Other USDA studies, reports of research conducted by Land-Grant Colleges of the South, and census data further develop the idea that a large percentage of farm families in Alabama and other Southern states are often in an inferior economic position. Frequently the gross income of a farm family is not sufficient to provide necessities of family living, ignoring expenses of operat-

ing the farm business. These reports of farm and home conditions in the South all indicate the limitation of resources that are available to the farm family. The economic problems of the low-income family are much greater than for the well-to-do operator. The same conditions are generally true for the low-equity beginning farmer in comparison with the established operator who has accumulated many productive assets. However, the analysis presented herein is not restricted to low-income, low-equity farmers. It is also applicable to high-income, well-established commercial farms.

The identified criteria indicate the seriousness of capital limitations, and suggest other conditions not conducive to adequate adjustment to changes. Level of education, sanitary and health requirements, and participation in occupational and social organizations are often at such levels that problems confronting the family may not be recognized (12,18).

Until recently, research and educational endeavors of the Land-Grant Colleges generally have not emphasized the interrelationships between the farm and the household. Some appreciation of this relationship, however, was evident in the early work of the Farm Security Administration and the educational efforts of the Tennessee Valley Authority. The Farm Security Administration provided services of both men and women representatives to assist families in developing farm and home plans that would organize the family farm on an efficient basis. The Tennessee Valley Authority, within the areas it served, cooperated with the State Extension Services in providing farm and home management educational services for farm families. Efforts of these organizations, however, did not have the benefit of a framework of reference to provide guidance and assistance in coping with the numerous problems confronting farm families.

The tendency of Land-Grant Colleges in recent years to combine farm and household endeavors is a definite departure from the past when agriculturalists and home economists traveled separate ways. These professional workers at all levels treated the farm and the household as separate and apart from each other. The farm has usually been considered the dominant unit and recommendations to farm families have been expressed mainly in terms of profit maximization. Recommendations have been made on a broad scale or mass basis with inadequate consideration given

to financial structure, managerial capabilities, and individual values and preferences of the farm family.

During years of separate recommendations by agriculturalists and home economists, farm families have considered their farm and household as being an interdependent unit. Many examples support this situation. Some illustrations are: (1) depletion of farm resources to finance college education for the children; (2) use of a portion of the farm's livestock and vegetable production as food for the family; and (3) use of surplus farm labor for work on the family home and its surroundings.

A need exists for a framework within which workers in the fields of agriculture can satisfactorily cope with problems arising from interrelationships of the farm and the household. These workers along with farm groups are asking for more aid in this area, as well as in other areas that contribute to greater profits and satisfactions for the farm family. It has been suggested that more time and research be devoted to developing such a framework before state programs dealing with the development of the farm and home as a unit go very far (6).

Previous Work

This study is the first known of interrelationships of the farm and the household in the South. An examination of literature revealed limited work from other regions pertaining directly to the subject. Many economic works are available dealing with allocation of resources to production.

In recent years, there has been a number of writings on consumption economics. Most recent works employ indifference analysis in allocating income to consumption. The use of indifference analysis has been popularized during the past three decades, beginning with the work of Hicks and Allen in 1934 (10).

Principal research employing indifference analysis for problems of interest in this study are traceable to the work of Professor Earl O. Heady at Iowa State University. He adapted the conventional product-product indifference model in showing the interrelationships of the farm business and farm household (7). In his early work he was concerned primarily with purely subsistence type farmers, which entailed an unnecessary and undesirable restriction. *The research being reported reflects extensive benefit from Professor Heady's research on these inherent problems of farm family businesses.*

He later gave additional theoretical insights to his framework, and expanded his analysis to include commercial farms. He recognized the satisfaction elements involving value systems and that educators can change people's values, but warned of the danger of workers in agriculture and home economics doing so (6). (See footnote for Heady's specific comments).³

Different viewpoints on the role of the scientist and educator in the value-judgment realms are available in a number of writings (1,16,5,15,17).

In an additional study at Iowa State University use was made of the work earlier advanced and data were collected; but the research report reflects heavy concentration in the family cycle realm rather than testing the conceptual framework as advanced (8).

In view of the present state of knowledge, a logical course of action in farm and home management has been suggested as one of applying currently known methods and techniques while additional energies are exerted in an effort to strengthen an inadequate framework (2).

METHODS AND PROCEDURES

Data for the study were collected during the summer of 1957 and consisted of three sources: (1) a sample of farm families cooperating in Farm and Home Development (FHD) activities of the Cooperative Extension Service of Auburn University⁴; (2) county men and women Extension agents engaged in FHD work in the counties sampled; and (3) statistical data from the farm business records of the families included in the sample from the Cooperative Extension Service of Auburn University.

³ "A second set of curves also can be changed in slope. These are the indifference curves representing values. However, this can be a danger area for extension workers. Some few workers perhaps feel that their directive is to *change people's values* (i.e. the slopes of their indifference curves). (Some workers probably start out with a set of values they hope to impose on farm families.) This approach is for ministers and boy scout leaders, and not for economists. Whereas one can guarantee that if the slope of the production possibility curve is changed (. . .) total satisfactions will be increased, he cannot change the slope of the indifference curve, unless the individual or family concerned selects the change."

⁴ FHD refers to special efforts by the Cooperative Extension Service and the United States Department of Agriculture to stimulate better farming and living through improved management of the farm and the home as a unit. This program including its predecessors and successors have been given different titles in the various states, but reference is to managerial educational programs where an attempt is made to consider the farm and home as a unit.

Intensive FHD activities were begun in Alabama in September, 1954. Twenty counties were included in the initial program with an additional 12 counties being added during 1955 and 1956. At the time of the survey in 1957, there were 1,225 farm families participating in FHD activities. Each of the 32 counties had an assistant county agent assigned the specific responsibility of the FHD program. One-half the counties employed FHD assistant home demonstration agents to share the responsibility of the program with the FHD assistant county agent. In counties not employing FHD home agents, the regularly employed home agent shared responsibility for the FHD program with the FHD farm agent.

The sample of farm families to be included in the survey was selected in the following manner: From the 32 counties with active FHD programs during 1957, 2 were randomly selected from each of the 8 major farming areas of Alabama (11). Within each area, 32 participating families with 1955 and 1956 farm business records on file in the Cooperative Extension Office were selected at random. One area had a total of only 30 records on file and two observations included insufficient information for analysis; therefore, all analyses are based on 252 family interviews. The location of the 16 counties included in the study is given in Figure 1.

The project leader visited each county included in the sample to explain the purpose and objectives of the study to the Extension Agents, and to seek their complete cooperation in working with the families. Three trained enumerators were actively engaged in taking the schedules. They worked through the Extension Agents in the counties in contacting the families to be interviewed.

A schedule was developed to obtain information on farm and home development from Extension Agents in the 16 counties included. Both male and female agents sharing the responsibilities of FHD work were interviewed. The questionnaire was designed to obtain information ranging from implementing a county FHD program to methods and procedures employed by FHD agents in coping with conflicting interests of the farm business and farm household.

FRAMEWORK OF REFERENCE

American agriculture was founded on a family-type farming operation that still predominates in today's highly mechanized,

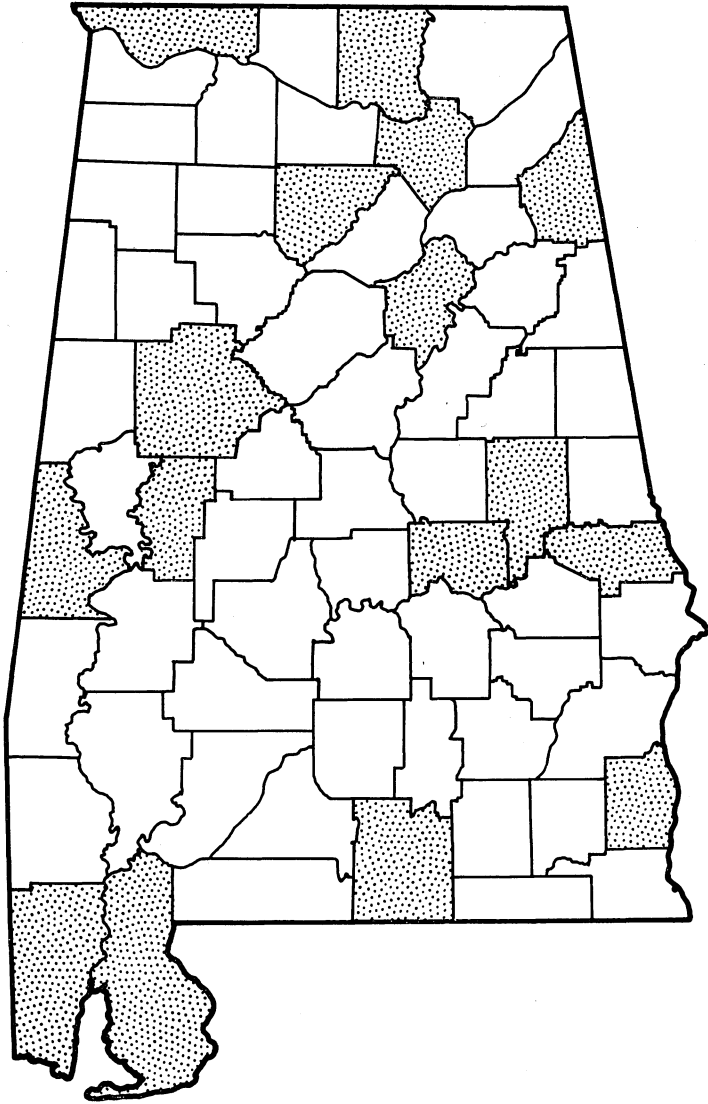


FIG. 1. Shown here are locations of 16 sample counties where 252 family schedules and 32 agent schedules were taken.

technical, and commercial agricultural industry. These family farms have a unique feature relative to the physical, economic, and social interrelationship that exists between the production and consumption phases of the farm business.

The above mutual or reciprocal relationship gives rise to the need for considering two phases of family farm businesses as one overall economic unit in research, education, and management. Neither the optimum allocation of resources in production nor the optimum allocation of income in consumption can be attained until the two respective sets of economic relationships have been related.

The following discussion is devoted to outlining a conceptual framework, within which an optimum allocation of resources can be made between the farm business and the farm household. The basic assumption underlying this analysis is that farm families tend to seek maximum family satisfaction in the allocation of their resources.

Production Opportunities

The farm business phase of a family farm is assigned the responsibility of producing market goods and services that are in turn sold for money income. This money income is then allocated between the farm household for consumption goods and services, and the farm business for future production. Hence, the production of market products for money income is only an intermediate goal of farm families. Their ultimate objective is one of obtaining greater satisfactions in consumption. No doubt some farm families attempt to increase money income because they attach value to money, *per se*; however, most farm families work for money income in order to consume the products that money will buy or for investment to provide future security. The maximization of satisfaction or utility of the farm family now becomes the major goal. Thus, it cannot be said a farm family is acting irrationally when it fails to maximize money profits during a given time period. Motivational forces behind the farm producing unit are inspired by consumption, as well as money profit.

The revised outline for adjustment in farm management can be used in problem solving in the management of the farm business and farm household (13). The following steps are included in the adjustment outline: (1) problem recognition; (2) observation of conditions surrounding the problem; (3) analysis of alternatives;

(4) decision-making; (5) action; and (6) acceptance of responsibility. Although it is doubtful that very many families are aware of the above steps, they are present in all sound deliberate thought processes.

Interrelationships in Production and Consumption

The interrelationships of the two phases of family farm businesses can be outlined with a few elementary diagrams. The farm family can allocate its available resources to the production of market goods and services (farm), to the production of non-market goods and services (home), or to various combinations of these uses. In Figure 2, non-market products are represented on the Y_1 axis and market products on the Y_2 axis. A production

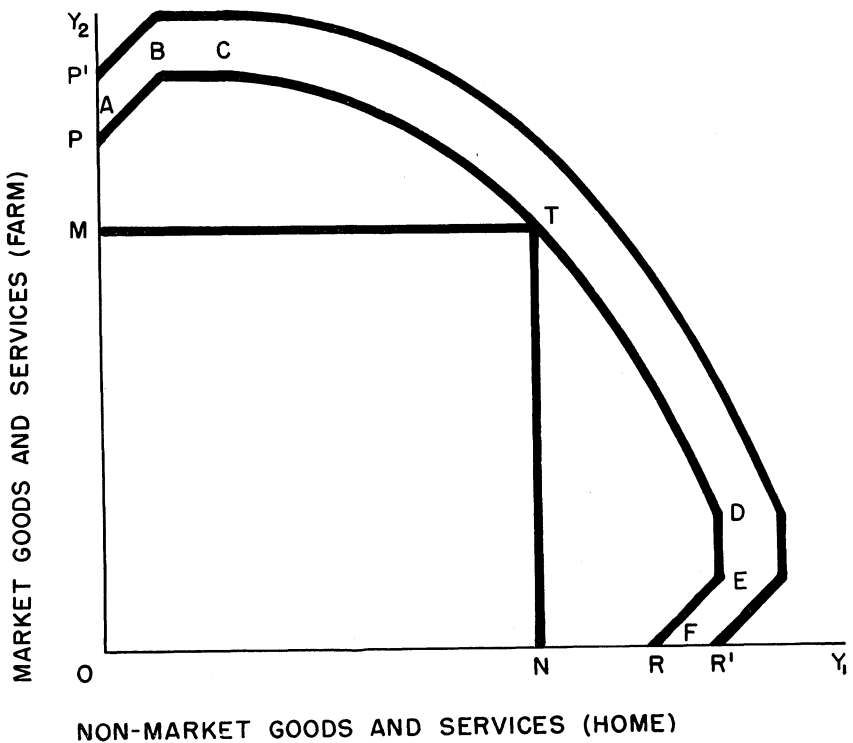


FIG. 2. Production possibilities of market and non-market goods and services with given amounts and resources are given in above chart.

possibility curve PR represents all of the production possibilities that can be attained with a specified quantity of resources. Curve P'R' sketches a production possibility curve with more resources and at a higher or greater level with respect to benefits to both the farm and the home.

With respect to Figure 2, should a farm family devote all of its available resources to the production of market products, then OP of this product would be produced. The allocation of all the family's resources to the production of non-market products would result in OR of these goods. Should a family allocate OM of its resources to market products and ON to non-market products, then production would be at point T on the production possibility curve. This, however, represents only three of the many different alternative production possibilities to which resources can be allocated. There are many combinations of market and non-market goods and services along the production possibility curve.

Three areas on the production possibility curve PR in Figure 2 are worthy of further discussion. The first of these is two areas of complementary relationship existing between points A and B and points E and F of the production possibility curve. In these complementary areas, an increase in the output of either market or non-market products will result in an automatic increase in the other.

Two areas of supplementary relationship exist. These fall between points B and C and points D and E on the production possibility curve. Within the area represented by B and C, non-market products can be increased or decreased without any resulting effect on market products. The supplementary area represented by D and E portrays the possibility of increasing or decreasing market products without any resulting effect on non-market products.

At some range on the production possibility curve, the farm business and farm household of a family farm business become competitive in nature. Within this competitive area, a shift in the allocation of resources between production or consumption can be made only at the expense of the other. The competitive relationship is shown on the production possibility curve by the area between points C and D.

Indifference Approach

In farm and home management, problems may be admitted that pertain primarily to the farm business or to the farm house-

hold. The area of greatest concern, however, is one of reaching decisions regarding the allocation of limited resources between the production and consumption phases of family farm businesses. Production economics lends itself much more satisfactorily to measurement than does consumption economics. Marshall has written, "It cannot be too much insisted that to measure directly, or *per se*, either desires or the satisfaction which results from their fulfillment is impossible, if not inconceivable" (14).

Conventional indifference analysis of the product-product form facilitates a conceptual view of resource allocation between the farm and the home, i.e. between the production and consumption firms. In Figure 3, an iso-satisfaction curve *SS* is added to the production possibility curve discussed in Figure 2. A family is assumed to be indifferent to any point on an iso-satisfaction curve,

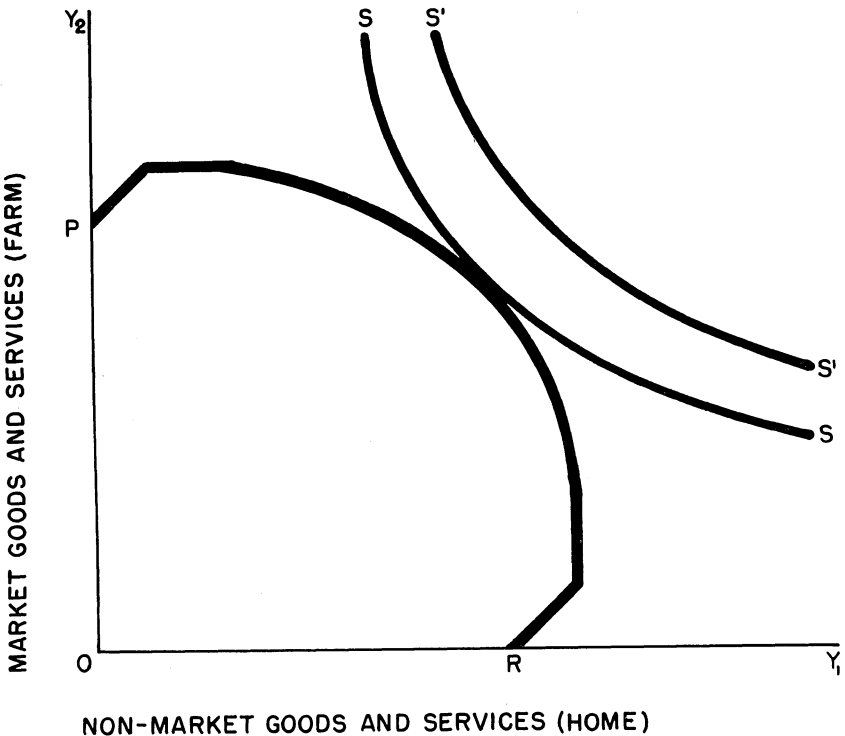


FIG. 3. The above chart shows iso-satisfaction curves of a family for production (farm) and consumption (home).

since any point on the curve will yield the same or equal satisfaction as any other point.

An iso-satisfaction curve can possibly best be described by contrasting it with a contour line on a topographic map. Instead of representing height, each iso-satisfaction curve represents a level of satisfaction. It is impossible to measure levels of satisfaction however, in the same manner that contour lines measure elevation. Although it is possible to say one iso-satisfaction curve represents a higher or lower level of satisfaction than another, it is impossible to say by how much satisfaction the two curves differ.

Several properties of iso-satisfaction curves that are important if the indifference approach is to be meaningful have been earlier identified (3). First, iso-satisfaction curves must slope downward and to the right. This must always be the case because to stay on the same iso-satisfaction curve, some market products must be sacrificed to obtain more non-market products or vice versa. Second, except for perfect substitutes, iso-satisfaction curves are convex to the point of origin. This follows from the well-known principle of diminishing marginal utility. A family with a large percentage of its resources invested in market goods would require only a small amount of non-market products to replace a relatively large amount of market products in order to stay on the same iso-satisfaction curve. Third, iso-satisfaction curves cannot cross, just as contour lines on a topographic map cannot cross (19).

Attaining Higher Satisfaction

In the preceding section it was determined that each successive higher iso-satisfaction curve represented a higher level of satisfaction. Such conditions are indicated in Figure 3, where movement from iso-satisfaction curve SS to $S'S'$ would result in a higher level of satisfaction for the family. This being true, the immediate problem becomes one of finding methods of reaping the benefits of greater satisfaction by moving to higher iso-satisfaction curves.

Assuming the best plan has been attained for a given set of resources, there are three ways of attaining a higher iso-satisfaction curve. First, a farm family can obtain more resources and push the entire production possibility curve upward, as in moving from PR to $P'R'$ in Figure 2. Such movement results in more of both market and non-market products.

Second, the production possibility curve can be raised upward to the right of its intersection with the horizontal axis. Figure 4 shows the effect of attaining a higher iso-satisfaction curve as a result of taking advantage of opportunities existing in the market or farm business phase of the family farm. Adjustments can be made in the market area that will result in a rightward shift of the production possibility curve above its intersection with the horizontal axis. The advent of new technology, the use of better farm management practices, the use of improved varieties of crops, all result in attaining a higher iso-satisfaction curve, provided they are profitable. Where the original production possibility curve was PR in Figure 4, as a result of applying one or more of the above mentioned factors, a new production possibility curve is attained as shown by the broken line labeled NR. In

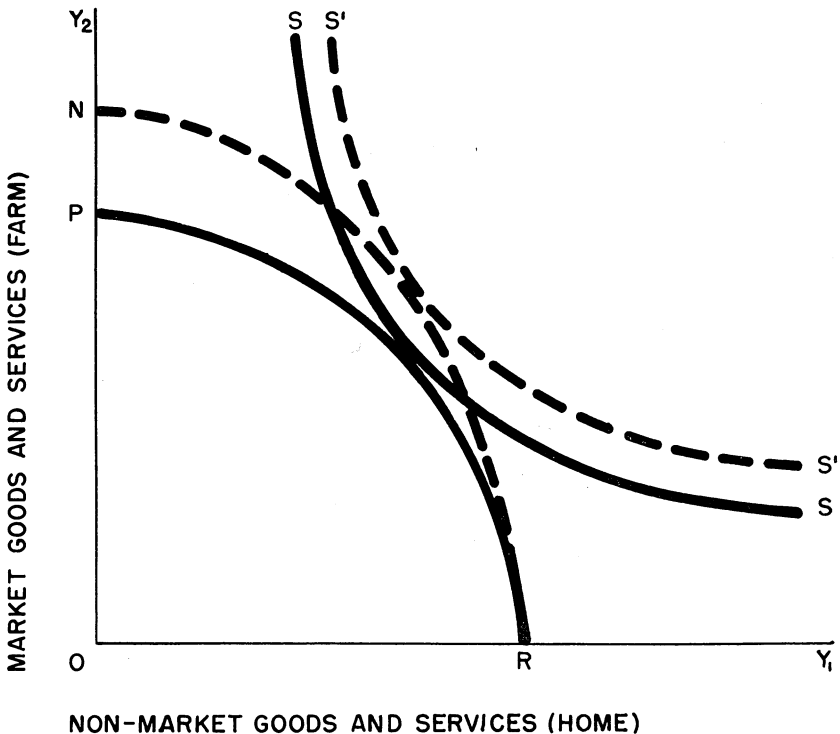


FIG. 4. Attaining higher satisfaction through adjustment of market opportunities is portrayed in the above chart.

moving to the new production possibility curve, the family automatically shifts from iso-satisfaction curve SS to $S'S'$. This shift guarantees an increase in satisfaction for the family since it has moved to a higher iso-satisfaction curve.

A third way for a family to attain a higher iso-satisfaction curve exists in the non-market or farm household phase of the family farm business. Figure 5 shows the effect of attaining a higher iso-satisfaction curve as a result of taking advantage of existent opportunities in the non-market area. The production possibility curve can be shifted rightward from its intersection with the vertical axis. Many possible adjustments exist in the farm household phase of the family farm business to facilitate such a shift. The advent of new technologies in home management, the use of new and more efficient appliances, new and better methods of meal preparation, all result in the attainment of a higher iso-satisfac-

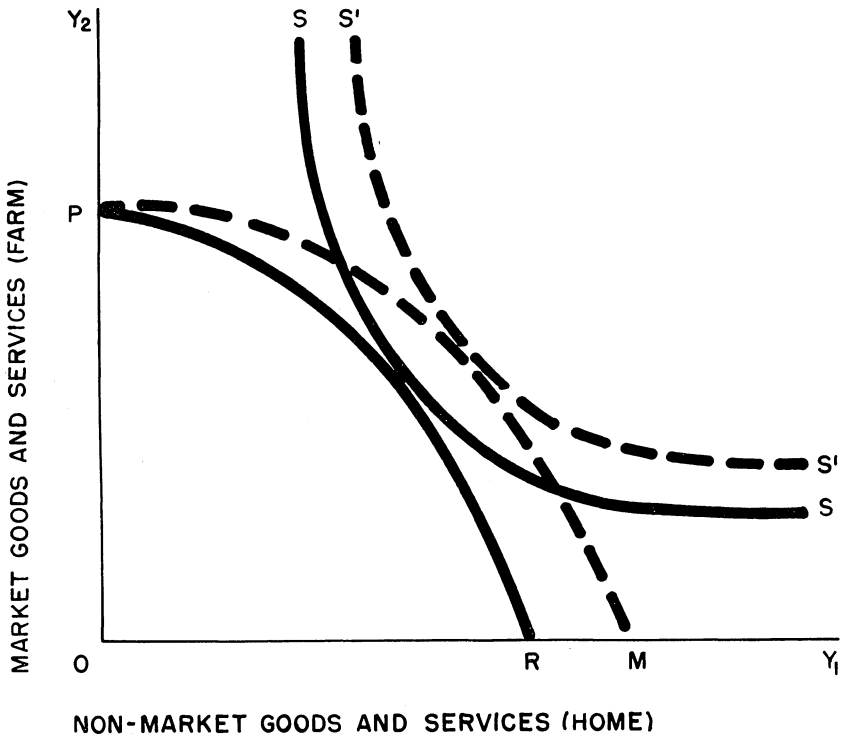


FIG. 5. Attaining higher satisfaction through adjustment of non-market opportunities is portrayed in the above chart.

tion curve. As a result of adjustment in non-market activities, the production possibility curve PR is shifted to PM. This shift facilitates movement from iso-satisfaction curve SS to S'S'. An automatic increase in satisfaction is guaranteed the farm family as a result of shifting to the new production possibility curve. It has been written that perhaps too many research and educational endeavors have been devoted to attaining greater satisfaction through market activities when non-market activities provide just as much opportunity (6).

Changing Indifference Curves

There exists the possibility of changing the slope of the iso-satisfaction curves of a family as a result of a change in their value system. Dangers from agriculturalists and home economists imposing their values on farm families have been cited. The impossibility of extensive contact among people without some influence being exerted on attitudes and values has also been expressed (2). In order for the educational process to be active, changes in value systems are inherent. Seemingly, educational programs for the farm and/or home will be fruitless unless value system changes are involved.

Figure 6 shows the effects of changes in the value system of a family. Iso-satisfaction curve A represents a family with a value system that places high emphasis on market production. This particular value system is assumed to result in a very low standard of living insofar as the farm household is concerned. Through educational activities the family could be led to realize that a more wholesome living condition would result if a portion of the family's resources currently used in production were diverted to consumption. A change in the family's value system results, and a whole new pattern of iso-satisfaction curves are formed as represented by iso-satisfaction curve C.

Iso-satisfaction curve B represents a family with a value system that places high emphasis on non-market or consumption products. This system probably results in a very inefficient farm business operation, with low production rates on crop and livestock enterprises. Resources, especially labor, probably being wasted in consumption could be profitably employed in production. A change in the family's value system results and a whole new pattern of iso-satisfaction curves result, once again represented by curve C.

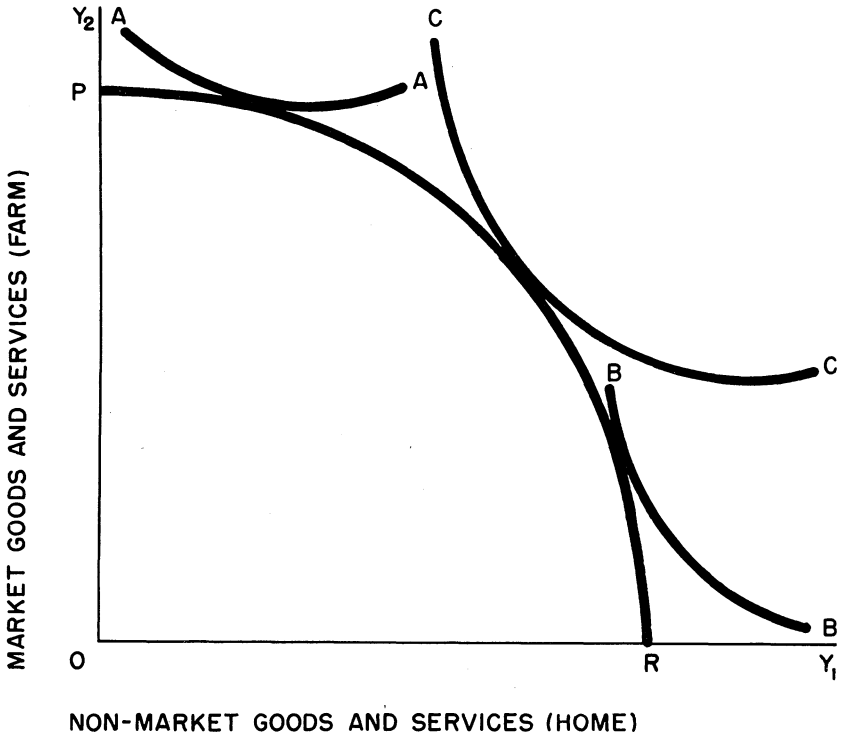


FIG. 6. Shown above is the changing pattern of iso-satisfaction for a family.

FIELD OBSERVATIONS

Attention is now directed to observations in Alabama relative to the basic concepts that have been outlined. The reports include descriptions of the parties involved and comparisons and contrasts of the observations and the conceptual models. The application and analysis of these findings relative to the framework of reference is made in an effort to examine its usefulness in explaining the interrelationships of family farm businesses as a guide to business action.

Description of Respondents

Some of the characteristics of the families were presented in an earlier section in establishing the methods and procedures used in the study. Other data of a descriptive nature are pre-

sented here to identify additional characteristics of the farm families included in the sample.

Families cooperating in the FHD program were selected at the county level. Upon recommendation from the Cooperative Extension Service Office, most of the counties appointed a committee to serve in an advisory capacity in the selection of families. Committee members usually consisted of prominent people with a high degree of familiarity with farm people, officers of county commodity associations and other farm and home organizations. This committee suggested families and approved their applications before they became active in the program. All families had to make application to become cooperators. The procedure for selecting families varied among the counties, but the above discussion seemed to be the basis underlying the selection procedure used by all counties.

The average age of the household head of the 252 families included in the sample was 46.6 years, with about 46 per cent of the household heads between 40 and 50 years of age, 23 per cent less than 40 years of age, and 31 per cent over 50 years of age. Formal education of the farmers ranged from 3 years of school to work on the Master's degree; the average education was 9.9 years, and about 43 per cent of the respondents had 10 through 12 years of education. Approximately 51 per cent of the respondents had spent their entire life on the farm, and only 17 per cent had spent none of their childhood on the farm. High school vocational agriculture, Veteran's-on-the-farm training, and 4-H Club training were the most frequently mentioned types of formal agricultural training by the 47 per cent of the respondents who had received some formal training in agriculture. About half of the families interviewed had a source of income in addition to the farm with several cases being encountered where the man farmed full time and the wife or some other member of the immediate family worked off the farm.

The interview with Extension personnel included 16 male and 16 female agents. Age of the agents ranged from 25 to 64 years with only 22 per cent of the agents less than 35 years. Eighty-four per cent of the agents had a farm background prior to their employment as Extension Agents in this program. All of the agents held a Bachelor's degree with 31 per cent having done graduate work. Of the 16 farm agents, only 9 had received formal training in farm management while they were in college, but all but 1 of

the 16 home agents had received training in home management at the college level. All men agents and all but 4 of the home agents interviewed had previous experience in Cooperative Extension work prior to their assignment to this program, with 33 per cent having 11 years or more experience and 15 per cent having 6 through 10 years' experience.

Interrelationship of Farm and Home

The families in the sample were asked specifically, "During the past year, has there been any time when you were undecided as to whether to use some money for some purpose in the home or to place it to use on the farm?" The response of the families to this question disclosed 29 per cent expressing indecision whether to spend some money on the farm or in the home, Table 1. Sixty-six

TABLE 1. RESPONSE OF 252 FAMILIES RELATIVE TO INDECISION TO SPEND SOME MONEY ON FARM OR IN HOME, 16 ALABAMA COUNTIES, 1957

Family situation	Number and per cent of families	
	No.	%
Situation not experienced	167	66
Situation experienced	74	29
Not ascertained	11	5
Total	252	100

per cent of the respondents indicated they did not experience indecision as to the use of some money in the home or on the farm. The situation was not ascertained for 5 per cent of the families. That 66 per cent of the families experienced no indecision does not imply that they had no capital limitations or allocation problems. It denotes that they did not express the experiencing of indecision pertaining to spending money on the farm or in the home.

Factors such as age of household head, farm background of household head, net worth of families, or years of formal education were all independent of the ability of families to recognize the experiencing of indecision in spending money on the farm or in the home.

Nature of farm and home decision situation

The 29 per cent of the families experiencing indecision with regard to spending some money on the farm or in the home were further questioned as to the nature of the farm and home decision situation. Ninety-three per cent of these families were able to

identify the situation, Table 2. Eleven per cent of the families identifying the situation indicated the decision rested between the addition of a new enterprise or expansion of present enterprises versus some use in the home. Of this 11 per cent, three families stated the home use consideration was for a new bath or kitchen facilities or minor repairs and remodeling.⁵ Three families

TABLE 2. NATURE OF FARM AND HOME DECISION SITUATION RELATIVE TO USE OF MONEY IN HOME OR ON FARM BY 72 FAMILIES, 16 ALABAMA COUNTIES, 1957

Nature of decision	Families making decision	
	No.	%
New enterprise or expansion of old enterprise vs. use in the home ¹	8	11
Purchase new farm equipment or build new farm buildings or repair old buildings and equipment vs. use in the home ²	29	40
General farm needs other than above vs. use in the home ¹	26	36
General farm needs other than above vs. general home or family needs	9	13
Total	72	100

¹ Use in the home refers to any use on or in the home such as remodeling, new bath, screening porch, kitchen facilities, household furnishings, new appliances, and new home.

said the home use consideration was for a new home or major repairs and remodeling of the present home. Two families indicated the home use aspect involved new furnishings or appliances.

Forty per cent of the 72 families identifying indecision between the use of some money on the farm or in the home indicated the decision rested between the purchase of new farm equipment or buildings or repairing new or present farm buildings versus some use in the home. Of these families, 45 per cent indicated the home use considerations included a new bath or kitchen facilities or minor repairs and remodeling. Thirty-one per cent of the families stated the home use consideration was for a new home or major repairs and remodeling. Twenty-four per cent said the consideration for home use was for new furnishings or appliances.

Thirty-six per cent of the 72 families identifying the nature of the farm and home decision situation stated the decision rested between general farm needs other than those mentioned above versus some use in the home. About 27 per cent of these families identified the home use consideration as being a new bath or

⁵ Minor repairs and remodeling include such things as screening a porch, painting a room, new fireplace, new steps, new door, sanding floors, small plumbing repairs, etc. It does not include complete remodeling.

kitchen facilities or minor repairs and remodeling. Thirty-five per cent stated the home use consideration was for a new home or major repair and remodeling. Thirty-eight per cent indicated the home use consideration was for new furnishings or appliances.

About 13 per cent of the families identifying the nature of the decision situation stated the decision was between general farm needs versus general home and family needs.

Decision of family on how money is used

The 74 families experiencing indecision as to whether to use some money in the home or on the farm were further questioned relative to how they decided what use to make of the money. Eighty-seven per cent of these families were able to identify the basis upon which a decision was reached. Thirteen per cent had either reached no decision or gave no reason for the decision they reached.

Twenty per cent of the 64 families identifying the basis upon which a decision was reached indicated it was made on the basis of necessity or forced action. Seventeen per cent of the families reasoned that money invested in the farm business would be profitable and may eventually pay for the home need. Eight per cent of the families applied the money to use in the home. The response of these families indicated they placed greater importance on non-pecuniary things or family satisfactions than on production or farm business investment. The decision of 11 per cent of the families was interpreted to be habitual behavior. The families invested all their extra money into the farm business because it was the source of income for the family, a type of behavior that might be classified as rational from a farm economic viewpoint. About 28 per cent of the families decided on the basis of the farm need being urgent and essential but the home need could be delayed until a later date. About 14 per cent applied the money to a home need because the farm need could be delayed until a later date. One family indicated a decision was reached whereby the money was not used in the home or on the farm, but was saved as a cash reserve to meet emergency or other needs.

Who makes farm and home decisions?

The 74 families experiencing indecision relevant to using money in the home or on the farm were questioned as to who actually made the decision on where to spend the money. Fifty

per cent of these 74 families indicated the decision was a joint effort of the husband and wife. Twenty-one per cent of the families indicated the husband made the decision and about 9 per cent stated the wife made the decision. Twenty per cent of the families did not identify who actually made the decision regarding the use of some money in the home or on the farm.

Report of one case study

The nature of the farm business-household allocation difficulties is probably best portrayed by statements of one of the families interviewed. This family had about \$2,500 of unallocated capital available. They had a choice of using the money to add a living room-dining room combination onto their small home or to use the money to remodel a couple of old barns to facilitate expansion of their broiler enterprise. Since their children were teen-agers, the addition to the house was very much needed. However, the head of the household referred to such usage of the money as being a "dead dollar" since it would not produce other dollars. On the other hand, expansion of the broiler enterprise would be on a contractual basis with a guaranteed income that he described as money for gain as contrasted to the "dead dollar" usage.

This family was revisited 3 years after the original schedule was taken. The purpose of this visit was to obtain information pertaining to courses of action taken by the family relative to the conditions that existed when the original data were collected.

It is noteworthy that the original \$2,500 of available capital was not devoted to either of the stated alternatives. Instead it was invested in a commercial egg production enterprise on a neighboring farm owned by the husband's father. The husband was farming his father's cropland and the laying hen enterprise was added to provide employment for the elderly father. Profits were to be shared between the father and son on an equal basis. Statements by the wife disclosed that the venture into the laying hen enterprise had not been a pleasant one since there had been no profits to divide.

The wife had suggested the family secure a loan and go ahead with plans to enlarge the home. Presumably the family could secure this loan since there was no mortgage against the home farm property. The husband was in favor of the addition to the home; however, he was not willing to incur the necessary debt

to construct the addition. His approach had been that the addition must be paid for as it was constructed.

During December of 1959, and January and February of 1960, the husband had taken a temporary off-farm position. From this income the family had saved approximately \$1,000. With these funds, the addition to the home was started, and at the time of the second visit, the addition had been framed and roofed. No funds were available at the time of the visit for work on the house; so it was standing unfinished waiting for available funds. The family was questioned as to the expected source of funds for completion of the project. At the time of the visit, any profits from present enterprises were to be used for completion of the house.

The wife was asked if the attitudes of other members of the family had changed now that construction had actually begun on the house. Her reply was that all members of the family seemed to be as proud of the addition to the home as she was. Furniture for the new living room-dining room combination was to be purchased on an installment plan basis upon completion of the home.

Conflicts observed by agents

The interrelationship of family farm businesses is further evidenced by the response of agents when asked, "Do you ever find that the farm interests and home interests are in conflict?" Seventy-two per cent of the agents indicated that conflicts were encountered in the families with whom they worked. Independence was found between agents' indication of conflict and their farm or home employment status. Agents were questioned as to procedures they employed in assisting families experiencing these conflicts. Forty-three per cent replied they would use the unit approach. Unit approach, as used here, means counseling with the family on an individual family basis in an effort to reach decisions regarding these conflicts that would result in the greatest satisfaction for the family. Another 43 per cent of the agents indicated they would encourage farm development in preference to home development when these conflicts arose. Only 19 per cent of the male agents encouraged farm development in preference to home development, whereas 44 per cent of the female agents encouraged farm development in preference to home development. Of the agents interviewed, only one farm agent

encouraged home development in preference to farm development. The primary reason advanced for encouraging farm development in preference to home development was the belief that the farm must be developed first since it provided the income for the family. Three agents stated they would not become involved, thereby leaving the decision up to the family.

Obtaining Greater Satisfaction Through Production Possibilities

The possibility of farm families enjoying greater satisfaction as a result of additional resource acquisition and/or commitment are portrayed in Figure 3. Such action results in an expansion of the production possibility curve and facilitates movement from curve PR to curve P'R' in Figure 2. Greater satisfaction is assured the family by such movement, since the production possibility curve P'R' is tangent to a higher iso-satisfaction curve.

Obtaining greater satisfaction through use of credit

The response of the families when questioned as to the use of some credit indicates that these families borrow money to expand their production possibility curves. Seventy-three per cent of the 252 families said they used credit during 1956, Table 3. The most popular type credit used by the families was for current operating expenses. Eighty per cent of the families stated they obtained loans for such use. Approximately 27 per cent of

TABLE 3. TYPES OF CREDIT USED IN 1956 BY 185 FAMILIES COOPERATING IN FHD ACTIVITIES, 16 ALABAMA COUNTIES, 1957

Type of credit	Families using credit	
	No.	%
Current operating loan	149	80
Intermediate type loan	50	27
Long-term loan	39	21
Total	238	128 ¹

¹Total exceeds 100 per cent because some families used more than one type of credit.

the families used intermediate type credit and 21 per cent used long-term credit. (These percentages exceed 100 because many of the families used more than one type of credit.)

Twenty-seven per cent of the 252 families said they borrowed no money during 1956. These families were further questioned as to their use of credit prior to 1956. All but three of the families indicated they had borrowed money in the past. Of those

who had borrowed money prior to 1956, 41 per cent had borrowed for current operating expenses, 53 per cent for intermediate type credit, and 62 per cent had used long-term credit.

Families' needs for additional credit

The 185 families using credit in 1956 were asked if they would have used more credit had it been made available to them. Fifty-nine per cent of the 162 families replying negatively said they had all the credit they needed. Three per cent said they would not borrow any more because they would be unable to pay it back. Thirty-eight per cent gave no reason as to why they would have used no additional credit even if it had been available.

Eleven per cent of the families replied they would have used additional credit if it had been available. Approximately 80 per cent of these families would have applied additional credit to long-term expansion or permanent improvement. Only 20 per cent indicated they could have used additional credit for current operating expenses.

Families' unwillingness to commit available capital

The preceding discussion indicates that many farm families do make extensive use of credit in the operation and expansion of their farm businesses and farm households. There is evidence, however, indicating that some families fail to take advantage of capital use opportunities that would result in greater satisfaction for the family. The interview with the agents revealed the existence of conditions whereby some farm families failed to commit available capital. The agents were asked, "Do you have situations where a shortage of capital is expressed by the family, but you find that capital is available and that because of risks, etc., the family will not commit the capital to use in either the farm or the home?" Approximately 60 per cent of the agents replied they had encountered such conditions among the families in their counties. This indicates that farm families often fail to enjoy the benefits of satisfaction that would be forthcoming from the commitment of such capital. Statistical analysis revealed no interaction between farm or home employment status of the agents and the agents observance of families being reluctant to commit available capital.

These agents were further questioned as to their procedure in working with families who failed to commit available capital,

TABLE 4. TECHNIQUES EMPLOYED BY AGENTS IN WORKING WITH FAMILIES RELUCTANT TO COMMIT CAPITAL, 16 ALABAMA COUNTIES, 1957

Procedure of agent	Agents	
	No.	%
Used marginal analysis	15	47
Created desire for convenience	5	15
Encouraged family to commit capital	8	25
Let family solve problem	4	13
Total	32	100

Table 4. Forty-seven per cent of the agents indicated the use of a method interpreted to be marginal analysis as a means of showing these families the importance of committing unused capital resources.

Twenty-five per cent of the agents said they encouraged the family to commit unused capital resources in an effort to improve the level of family satisfaction. Fifteen per cent said they would attempt to create a desire for conveniences and thereby get the family to commit unused capital. Thirteen per cent of the agents said the problem was one to be solved by the family and they would not become involved in the situation. A larger number of the farm agents in comparison to the women agents indicated the use of marginal analysis in encouraging families to commit available resources.

Families' unwillingness to use credit

The interview with the agents revealed a reluctance on the part of farm families to borrow money when it was obviously needed. The agents were asked if they had worked with families under conditions where the standard of living from the farm could be improved only through the use of credit, but the family was extremely reluctant to use credit for fear of depression, custom, and/or beliefs and consequently continued as a near subsistence type farm. Fifty-eight per cent of the agents stated they had encountered families that were confronted with this problem. The farm or home employment status of the agent was independent of the agent's ability to encounter or recognize the encountering of families that needed additional capital but were reluctant to borrow it.

The agents were questioned as to the procedures they employed or would employ in working with families that obviously needed to commit additional capital, but were reluctant to incur debt to obtain it. Forty-seven per cent of the agents indicated

they would use a method that suggested a partial budgeting technique in working with these families. This 47 per cent stated that through the use of the suggested techniques they could show the family the expected increase in profits or satisfaction from the family farm business as a result of applying additional capital in the form of credit. Seventy-five per cent of the men agents indicated they used a method interpreted as partial budgeting in working with these families, whereas only 19 per cent of the women indicated the use of this approach. Thirty-four per cent of the agents said they would either leave the problem alone or let the family solve it for themselves. All but two of these were women agents. Nine per cent of the agents indicated they would assist families in securing loans and advise them as to the availability of lending agencies. Approximately 10 per cent of the agents said they would encourage the family to incur production loans when they obviously needed to apply additional capital but were reluctant to borrow.

Opportunities in Market and Non-Market Activities

The possibility of farm families enjoying greater satisfaction through adjustments in both market and non-market activities were portrayed in Figures 4 and 5, respectively. Such activity in market products or the farm business causes the production possibility curve to shift upward to the right of its intersection with the horizontal axis as portrayed in Figure 4, page 15. Activity in non-market products or the farm household causes the production possibility curve to shift outward to the right of its intersection with the vertical axis as shown in Figure 5, page 16. The shifting of either of these curves results in movement to a higher iso-satisfaction curve and results in greater satisfaction for the family. Simultaneous adjustments in market and non-market possibilities would have the same effect as an increase in resources as portrayed by Figure 2 in moving from curve PR to P'R'.

The potential production possibility curve as just described can be altered through activities that require no additional capital outlay. This is evident from the response of agents when asked, "In general, how do you handle situations where capital is drastically short and additional money is obviously needed in the farm and the home but is not available even through credit?" All but two of the agents said they had worked with families

that were confronted with this problem. Of the agents encountering this problem, 78 per cent indicated they could favorably alter the level of satisfaction of the family through improved management of the farm and the home or a reorganization of the family's resources.

Reducing scale of operation, more intensive enterprises, production of year-round garden, and remaking clothes for other members of the family were most frequently mentioned by the agents as methods actually employed where additional capital was needed but was unavailable. The number and percentage of agents employing various techniques in working with families that cannot obtain credit is given in Table 5. Sixty-nine per cent

TABLE 5. TECHNIQUES EMPLOYED BY AGENTS IN WORKING WITH FAMILIES WHO CANNOT OBTAIN CREDIT, 16 ALABAMA COUNTIES, 1957

Technique employed	Agents employing technique	
	No.	%
Improved management of the farm and home	25	83
Seek off-farm employment	1	3
Leave problem to family	4	14
Total	30	100

of the male agents and 88 per cent of the female agents indicated they would encourage improved management and reorganization of the family's resources in their efforts to assist families confronted with this problem.

Changing Indifference Patterns

Figure 6 portrays changes in a family's pattern of iso-satisfaction curves that reflect a change in the family's value system. Professional workers in the field of agriculture have more or less taken a farm family's values as being given. "Present the facts and leave the decision to the family" has been an attitude frequently expressed.

The value system of an individual or a family is dynamic. Values are constantly changing or being reoriented to meet changing conditions. There is also a tendency for people to reject or fail to conform to changes that surround them. Some people tend to become satisfied with conditions that are obviously unsatisfactory when compared to acceptable standards that are determined by our society.

Identification of satisfaction status

The agents were questioned concerning their encountering a situation where a family expresses satisfaction with their present condition when it was obvious to the agent that the income and/or standard of living was not satisfactory. All but three of the agents replied that they had worked with families in their counties that had expressed satisfaction with conditions that were obviously unsatisfactory to the agents.

Influencing family's satisfaction status

All of the agents that identified families expressing satisfaction with unsatisfactory conditions felt it was within the realm of their responsibility to work with these families in an effort to change their values. Evidence to this effect is available through the agents' response when questioned as to their course of action when encountering such conditions.

Several courses of action were identified by the agents as methods employed to cope with families that express satisfaction with obviously unsatisfactory present conditions, Table 6.

TABLE 6. TECHNIQUES EMPLOYED BY AGENTS TO INFLUENCE SATISFACTION STATUS OF FAMILIES, 16 ALABAMA COUNTIES, 1957

Technique employed	Agents employing technique	
	No.	%
Individual approach	28	67
Group approach	9	21
Literature and materials	5	12
Total	42	100

Generally speaking, the individual approach embraces all actions on the part of the agent that centered around personal counseling with the family, pertaining to activities such as low rates or production of crop and livestock enterprises, sub-par level of income, inadequate diets, and family hygiene. Sixty-seven per cent of the agents indicated they used this individual approach in working with these families. The individual approach was more popular among the farm agents than with the home agents.

One agent cited the results that had been obtained from the use of an individual approach. This particular family was indifferent at first and on one occasion even suggested that they be dropped from the program. After several visits the family began asking questions pertaining to various problems that had been

discussed previously. Using this approach, over a period of several months the family repainted the interior of their home, sanded and refinished floors, and for the first time in 40 years the house and surroundings were landscaped.

The group approach as used here embraces all action on the part of agents to encourage families to participate in group activities. Encouraging children to become active in 4-H programs, women to join Home Demonstration clubs, men to join commodity organizations, and the whole family to participate in community activities, are all examples of group activity in which the agents encouraged the family to participate. Agents indicated that as they were able to encourage families to join organizations and perhaps change their reference groups, the family's desire for improved conditions became apparent. Twenty-one per cent of the agents said they used a group approach in working with families that expressed satisfaction with obviously unsatisfactory conditions.

Literature and other printed materials were mentioned by the agents as another method employed in creating a desire for an improved standard of living. This was more of an indirect approach and was used more frequently by home agents. When an agent observed conditions that were obviously unsatisfactory, pertinent literature would be mailed or carried to the family along with a casual comment such as, "I thought you might be interested in this information."

The statements of one of the home agents is indicative of the value of an indirect approach using literature and materials. This home agent cited a visit to one of the homes in her county while the housewife was preparing the evening meal. The menu consisted of squash, corn, potatoes and cornbread. During the course of their conversation the housewife asked for information on making dill pickles. When the agent delivered material on pickles, she also included a bulletin on meal planning. The housewife later remarked several times about the meal planning bulletin. Other agents using this approach cited similar results.

All three of the approaches enumerated by the agents are aimed at getting families to recognize their problems. Before the problem can be recognized and action taken to correct it, the family must have a change in the pattern of their iso-satisfaction curves. Work at this Station has denoted the impor-

tance of problem recognition inherent in educational efforts, as a logical step in making satisfactory adjustment to change (12). The implementation of physical activity for the adjustment necessitates more than appreciation of the steps in the decision-making process. The motivational elements form an environment of great magnitude in any educational program.

SUMMARY

This research report deals with: (1) outlining a framework of reference for making decisions concerning resource allocation between the farm business and the household; and (2) examining the framework in terms of farm and home management conditions in Alabama. Underlying these objectives was the basic assumption that farm families tend to seek maximum family satisfaction in the allocation of their resources.

The framework of reference identified the family farm as being composed of the farm business and the farm household, and that they are closely entwined from physical, economic, and social standpoints. These two phases of a family farm compete for capital, land, labor, and management resources. While exceptions and differences in degree are recognized, this competition creates an interrelationship between the farm business and farm household that is much stronger than in other major industries.

Iso-satisfaction curves depict the allocation of resources in such manner as to provide maximum satisfaction for the farm family. These iso-satisfaction curves reflect values. The inherent changes in values that are present when the educational process is active have been expressed.

The framework of reference presented provides a useful conceptual outline for the allocation of resources between production and consumption, and portrays the interrelationships between the farm business and the farm household of family farm businesses. That this analysis can be understood and used by all farm families in general is not perceptible at this time. The framework of reference is useful to professional workers in the fields of agriculture and home economics as a means of better portrayal and understanding of the inherent problems arising from the interrelationships of family farm businesses. Through an understanding of these interrelationships, workers would be in better positions to make recommendations to farm families concerning problems of production and consumption.

Field observations disclosed that some farm families do recognize interrelationships between the farm business and the farm household. About one-third of the families interviewed enumerated a problem where indecision had existed relative to allocating money between farm business and home uses. Seventy-two per cent of the Extension Agents interviewed said they had

encountered situations where the farm interests and the home interests were in conflict.

Extension Agents recognize and influence the changing of the production possibility curves of farm families to include: (a) assisting families in obtaining and committing capital to use in either the farm or the home; (b) encouraging families to take advantage of capital use opportunities that exist in the form of credit; and (c) motivating and guiding families to take advantage of existent opportunities that are present but not fully explored in market and non-market possibilities.

Farm families change their value systems in adjusting to changes that confront the farm and the home. It has been concluded that Extension Agents do directly and indirectly influence these changes in values of farm families. Such influence has been advanced as being inherent in any educational program.

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