The relationship between rural value-orientations and farm policy positions

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THE RELATIONSHIP BETWEEN RURAL VALUE-ORIENTATIONS
AND FARM POLICY POSITIONS

by

Rex Hovey Warland

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INTRODUCTION

Since the early 1930's over capacity and low incomes in agriculture have been persistent problems within the United States. Technological advances and economic development in the form of substitution of capital inputs for labor inputs have increased output greatly and lowered the demand for physical labor. From 1940 to 1960, farm output increased 55 percent, the output per unit of labor increased 210 percent, and the percentage of the population classified as rural decreased from 42 percent to 28 percent (37). This rise in output has increased supply beyond demand. Prices have fallen and incomes of farmers have generally not risen as rapidly as the incomes of those employed in the other sectors of the economy.

During this period government farm programs have played an ever increasing role in the farmer's life. On the whole these programs have been designed to deal with the price problem. Farm programs in the Midwest have gone from commodity credit programs to soil bank programs to the present feed grain program. The dependency of farmers upon government farm programs has reached the point where it is estimated that wheat prices could drop as low as 74 cents per bushel and corn prices as low as 66 cents per bushel if government programs were discontinued (37). To date, these farm programs have failed to solve the major structural problems of agriculture.

There is limited consensus within the farming sector concerning government farm policy. Not only do farmers have varied opinions about the goals of farm policy, but they also disagree over which programs
will most effectively bring about the desired results. Farmers differ widely in their perceptions of the role the government should play in agriculture. Although many farmers are relatively satisfied with the present government production-control and price support programs, some have expressed a desire for much stronger controls while others favor a large reduction in government controls. Many observers have asserted that this lack of consensus has impeded progress toward solving the major structural problems which are present in American agriculture.

Various social scientists have suggested that conflicting values and beliefs are two very important variables which are responsible for the diversity of opinion. They have hypothesized that certain value and belief differences among farmers are associated with the variety of views concerning what kind of overall farm program is needed and how such a program should be implemented. This suggestion stems from the general proposition that values and beliefs influence the choices and actions of men.

Sociologists have often examined values and beliefs within the context of conflict and competition. Social scientists have become increasingly interested in the state of competition and overt conflict which is present in all societies. Many have considered the bases of competition and conflict to exist in the differences in modes of thought, values, and beliefs. A great deal of attention has been focused upon the role of values and beliefs in the determinations of ideas, ideologies and social action. An outcome of both the theoretical and empirical results of these studies has been the proposition that values are
influential variables in the determination of behavior. The theoretical arguments have been much more convincing than the empirical demonstrations of these principles.

Given this background, it is understandable that people working in the area of farm policy have suggested that values and beliefs are important variables in the determination of both the ends of policy and the means by which given policies are accomplished. If values and beliefs influence the selection of ends, then it is likely that certain farm operators who are more oriented toward such ends as security, familism, leisure and various other non-economic activities may have a different conception of policy than those who are oriented toward economic and profit maximization activities. Farm operators who are oriented toward the same ends may differ sharply over which means will best accomplish those ends. For example, individuals who believe in independent action may have quite a different perception of how certain ends might be gained than individuals who are more group and collectively oriented.

Three decades ago, rural society was considered to be a homogeneous entity characterized by value and belief consensus rather than by value and belief conflicts. Descriptions of rural values and beliefs focused primarily upon the differences between rural and urban values and beliefs and not upon value and belief conflicts within rural society per se. More recently, portions of the rural population have been conceived to be moving closer to the central value orientations of society and thereby breaking down the homogeneous state of rural society. Rural value
positions are now considered to be ambiguous and heterogeneous. Consequently, value and belief conflicts within the rural sector are considered to be more important factors than they were in the past.

The primary purpose of this dissertation is to examine the impact of values and beliefs upon farm policy positions and actions. There are two major reasons for undertaking this research. First, there is very little empirical research extant concerning the hypothesized relationship between certain value-orientations and farm policy positions and actions. Empirical research related to this hypothesis is needed to determine more precisely what role values and beliefs play in the present farm policy conflict. Second, research of this nature should articulate the various value and belief conflicts which are present in rural society. Knowledge of these conflicts may be useful in the development of more informed farm policy.

The specific objectives of this dissertation are:

1. To determine the nature and type of value and belief patterns of Iowa farmers.
2. To determine the relationship between certain value and belief dimensions and farm policy positions and actions.
3. To determine the relationship between the various value and belief dimensions.
4. To determine the degree of association between value and belief configurations and farm policy positions and actions.
5. To determine the degree to which value and belief dimensions will predict the positions and actions of individuals with respect to farm policy positions and actions.
The dissertation is divided into four major parts. The first part is concerned with the derivation of the general and sub-general hypotheses and the theoretical basis from which these hypotheses are developed. The next part contains a discussion of the methods and procedures used to collect the data. The procedures involved in the gathering of the data, the measures of the major concepts, and the statistical tests used are described and discussed. The findings relevant to the hypotheses developed are presented in the third part. The last part of the dissertation contains certain additional findings and an interpretation and evaluation of the findings. A brief summary of the dissertation is also included in this part.
REVIEW OF LITERATURE

A review of literature is essential to any research endeavor. The main functions of the review of literature are to: determine what work, both theoretical and empirical, has been done in the area of interest; assist in the delineation of the problem area; provide a basis for the theoretical framework; provide insights into methods and procedures and suggest operational definitions of major concepts; and, provide a basis for the interpretation of the findings.

There is, to the author's knowledge, very little literature in existence concerning the relations between values, beliefs and farm policy. A majority of this literature is peripherally rather than directly related to the problem being examined in this dissertation. The general literature on values, beliefs, and farm policy is quite extensive but more relevant to the theoretical section of the dissertation. Given the lack of literature directly relevant to the problem and the non-applicability of the bulk of the general literature, it is believed that a standard review of literature would not be very meaningful.

To overcome this difficulty, the review of literature has been integrated into the entire dissertation. This has also been done for another important reason. The various functions which the review of literature performs are related to each section. Relevant literature must be reviewed as the theoretical framework of the study is developed, as the methods and procedures are explained, and as the findings are
interpreted. If the review of literature is incorporated into the dissertation rather than segmented as a separate section, it should contribute to a more meaningful overall presentation.
THEORETICAL ORIENTATION AND DERIVATION OF HYPOTHESES

Introduction

The purpose of this chapter is to discuss values, beliefs, and farm policy in some detail and to relate these concepts to a theoretical and conceptual framework for the purpose of deriving hypotheses concerning the expected relation between these three variables. The chapter begins with some brief comments concerning the limitations of the theoretical scheme developed in this dissertation. This section will be followed by a definitive discussion of the major concepts. A general theoretical scheme will then be developed and a certain general hypotheses derived. These general hypotheses will be defined more specifically by a series of sub-general hypotheses.

Theoretical Limitations

The role of theory in any scientific inquiry is to provide an explanatory and predictive framework from which testable hypotheses can be generated. Although the role of theory is relatively uniform from one science to another, the level of theoretical sophistication is not. The stage of development of any given scientific discipline and the nature of the phenomena studied may impose important restrictions upon the logical and explanatory completeness of many of its theoretical systems. The discipline of sociology is presently characterized by both immaturity and illusive phenomena so that most of its theories encounter serious limitations. Consequently, it is important that such
limitations be recognized and specified prior to the construction of any sociological theoretical scheme.

Before stating precisely the limitations of the theoretical scheme developed in this dissertation, a brief discussion of the term theory will be presented. Many contemporary sociologists have been preoccupied with theory, but seldom have made explicit what they mean by the term theory. A cursory examination of present sociological theories finds elaborate taxonomies, social philosophies, "logically interdependent concepts", and "sets of working hypotheses" all being referred to as theory. This variety of definitions of theory have left the meaning of the term ambiguous.

To avoid this confusion and ambiguity, theory will be viewed in this dissertation in the context of the Classical definition (13). This definition identifies a theory of a phenomenon with an explanation of that phenomenon by means of a deductive system. In brief, the general characteristics of theory in this context are the following:

1. A set of concepts or a conceptual scheme.
2. A set of propositions, some of which are contingent, i.e., experience is relevant to their truth or falsity.
3. A deductive system, i.e., the propositions can be arranged into a deductive system. Concepts generally are defined on both a theoretical and operational level. The propositions of a deductive system differ in terms of level of generality, so that lower order propositions are derived from higher order ones.
The most formal and powerful type of theory is the axiomatic theory. In this type of system, certain primitive concepts and propositions are stated and all corresponding theoretical concepts and propositions are deduced from these primitive concepts and propositions (110). All concepts are interrelated in propositional form and all propositions are derived from the combinations of higher order propositions. Costner and Leik have illustrated that an axiomatic theoretical system can only be meaningfully employed if 1) the propositions are stated in asymmetrical causal form and 2) a closed system is assumed (21, p. 827).

Given this definition of theory, the assumptions and the limitations of the theoretical scheme developed in this dissertation can be stated:

1. For reasons to be made more explicit later, no axiomatic theoretical system will be employed. Rather a less formal variation of the deductive system will be used. Lower order propositions will be logically derived from more general or higher order propositions, but these propositions will be stated in a rational rather than in a causal framework.

2. The propositions will be stated in a direct relation basis, i.e., \( x \) varies directly as \( y \). In other words, monotonically increasing functions will be assumed.

3. The theoretical scheme developed below is not complete. It should be viewed as a "middle range", theoretical scheme which only attempts to explain a portion of behavior.

4. The theoretical scheme can not be viewed as a closed system.
The propositions must be treated as tendency statements, i.e., the possibility of the propositions not holding under certain conditions is recognized. Following Braithwaite (13), these tendency statements will be treated as quasi-general propositions. In this manner, the success and the failure of the empirical test will help provide information on the unknown limiting conditions that may prevail.

Policy Positions and Policy Actions

Having outlined the major theoretical limitations, attention will now be focused upon the central concepts. The first concepts which will be defined and discussed are policy positions and policy actions.

Policy can be defined as an integrated program of actions which an actor (or group of actors) is accustomed to or intends to undertake in response to a given problem or situation with which he is confronted. A series of policies represent various behavior alternatives. Policy is generally considered to be a means, but under certain conditions can also become an end.

As can be seen in the definition given above, there are two forms of behavior associated with policy: actual behavior (accustomed) and planned or hypothetical behavior (intended). Accustomed behavior refers to overt validated behavior or participation in past and present policy. Henceforth this type of behavior will be called policy actions. Intended behavior represents the actor's predispositions towards proposed policy alternatives. This type of policy behavior is defined as an
actor's verbal expression of how he would behave with respect to a given set of proposed policy alternatives. Intended policy behavior will be referred to as policy positions throughout the remainder of this dissertation.

The specific type of policy actions and policy positions which will be examined in this study are government farm programs. Since the mid 1930's, the United States has had some kind of a government farm program. These programs have been designed to deal with three major problems in agriculture: over-production, low income, and adjustment.

Programs designed to control supply and thereby stabilize prices have been implemented in an attempt to overcome the problems of over-production and low income. Most of these programs have been voluntary, i.e., the farmer has the choice of participating or not participating in the program. Land retirement and production allotments have been the most important types of supply control programs. The surplus and income problems have also been approached from the demand side. Programs designed to increase the demand for farm products both here and abroad such as school lunch programs, Food-For-Peace, and various tariff programs have been enacted.

Programs to aid the rural people in the rapid adjustment process which is occurring in agriculture have begun to appear. Information concerning non-farm employment and a few retraining facilities have been made available to some rural people. More programs of this nature have been proposed. These programs would make the transition from farm to non-farm easier through such means as 1) establishing a number of
adequate retraining centers, and 2) providing financial aid to rural farmers who relocate in non-farm jobs.

Direct payment programs have been implemented at various times during the last 30 years. These programs attack the income problem directly, for the farmer receives a cash amount for the difference between the prevailing market price and some target price.

Other types of programs have been proposed but not enacted. It has been suggested by some policy makers that compulsory programs similar to the present supply control programs be established. Under this type of program, all farmers would be required by law to conform to any government regulations concerning their production. Others have contended that the problems of adjustment, over-capacity, and low income would be most rapidly solved if all government programs were eliminated. Prices, supply, and the fate of the farmer, therefore, would be determined by the mechanisms of the market. Another type of program which has been suggested is the restraint program. The restraint type program is designed to preserve the American agricultural heritage by reversing the trends of adjustment through such means as taxing the use of large equipment and reducing government support for agricultural research.

This brief review of farm policy illustrates that a number of suggestions have been offered over the last 30 years concerning how the problems of over-capacity, low income, and adjustment can be solved. The diversity of these suggestions have important significance as will be seen in the latter part of this chapter. A relatively representative cross section of farm programs which have been enacted, which are
presently in effect, or which have been proposed will be examined in this study. For purposes of analysis, these government farm programs have been organized into six categories. The government farm program categories and their respective definitions are given below:

1. Compulsory (mandatory) price - supply management and control programs -- these include government programs which control supply and prices through the use of 1) market quotas to each producer, 2) acreage allotments to each farmer, and 3) compulsory purchasing of land.

2. Voluntary price - supply management and control programs -- these programs are designed to control supply and prices by restricting production primarily through acreage allotments and market quotas. These programs are binding only upon those who choose to enter them.

3. Free market program -- a program which would essentially abolish all governmental controls and leave the determination of supply and price to the market mechanisms.

4. Auxiliary adjustment programs -- these include government programs which encourage the process of agricultural adjustment by providing education, information, retraining, and direct financial aid to farm people in order that they might find employment in non-farm jobs.

5. Agricultural restraint programs -- government programs designed to slow down the process of agricultural adjustment. These consist of programs designed to discourage large scale
production and agricultural research.

6. Income transfer programs -- these include programs which consist of subsidies in the form of direct cash payments and/or special compensations to certain interest groups (e.g. small farmers).

Values

The concept value has an important history in many disciplines. The use of the concept value by these many disciplines in a variety of contexts, however, has left its meaning ambiguous. Clyde Kluckhohn once commented, "the only general agreement is that values somehow have to do with normative as opposed to existential propositions" (51, p. 390). A cursory examination of the literature reveals that, even on this point, there is much disagreement and ambiguity (46). Given this state of affairs, it is essential that an attempt be made to carefully define the concept value so that it can be employed as a useful analytical tool in this study.

A number of the more significant definitions of the concept value will be summarized below. Various criticisms of these definitions which have been raised will also be given. Once these definitions have been discussed, a summary and a synthesis of these definitions will be attempted. From this synthesis, a definition of value as used in this study will be developed. It is believed that this approach will help clarify the term value and result in a more precise definition of the concept.
Values equated with ends and goals

A number of definitions which appear in the literature equate values with goals, i.e., with the purpose or outcome of action. Philosopher Ralph Barton Perry (74) views values in terms of objects of interest and perspective goals. Pepper (73) finds the sources of values in any purposeful behavior whether it be biological, social or otherwise.

This approach to values is also evident in sociology. Lasswell and Kaplan view values, within a behavioral context, as:

"...a desired event -- a goal event. That x values y means that x acts so as to bring about the consummation of y. The act of valuing we call 'valuation', and we speak of the object or situation desired as value" (58, p. 17).

The major difficulty with the equation values equals goals, outcomes of actions, etc., is that values are reduced to "things desired". Jacob and Flink (46) and Fallding (29) point out that this approach to values defines the term so broadly that it looses its meaning, not only theoretically but operationally as well. The term remains ambiguous for --

"the broad equation of values with all goals seems to oblivi ate initial distinctions between these goals which, at one extreme, reflect primarily the impulsive demands of the biological organisms whose satisfactions are essential to the survival of the organism ('needs' in one of the more precise contemporary usages) and at the other, goals which have been shaped by layers upon layers of learned standards of social priority - as well as those influenced by normative criteria more particularly to the individual" (46, p. 20).

This view of values also implies that the locus of value lies in the object, rather than in the product of the interaction between the subject and the object. This implication is particularly evident in the Lasswell-Kaplan (58) definition.
Kluckhohn (51) has suggested that the concept value cuts across goals relative to an action sequence. Values are not the concrete goals of behavior but are the aspects of these goals. Values, for Kluckhohn, are the criteria against which goals are chosen and appear as the implications which these goals have in the situation (51, p. 429).

**Values as hierarchal attitude structures**

Values have also been conceived as attitudes organized into hierarchal structures (48, 67, 83, 87, 109). This position is particularly widespread among those who have worked in the area of social psychology. Attitudes are usually defined as enduring systems of positive or negative evaluations, emotional feelings, and pro and con tendencies with respect to a specific social object (54, p. 139). It is suggested that these attitudes become integrated into broad patterns and form generalized attitudes or values. Within this framework, attitudes are oriented toward single objects whereas values are oriented towards an entire class of objects. Values take on all the characteristics of attitudes but are more general in orientation.

On the surface, this appears to be a relatively logical and plausible approach. Upon closer examination, however, some important questions arise concerning this definition. If values are defined as an integrated system of attitudes, then one would at the very least expect a one-to-one relationship between the general content and direction of a value and a related attitude. Krech, et al. (54) suggests that this direct correspondence does not necessarily exist, for the "...same value may lead different persons to develop different -- even opposing -- attitudes."
...The functional relation between a single value and the attitude of
the individual is influenced by all his other cognitions, values, and
attitudes, by his wants, and by his group affiliations. Because of this
we should not expect to find a simple, univocal relation" (54, p. 193).
If one refutes the notion of a one-to-one correspondence between values
and their related component attitudes, the definition given in the pre­
ceding paragraph is only useful in an idiosyncratic sense. To define
values in this manner would not be very meaningful for social science
research.

Values equated with action

A rather polemic view of values can be found in the work of Franz
Adler (2). Adler has classified the concept of value into four basic
types. He sees the concept applied variously to 1) absolute quantities
inherent in events or in contemplated states of affair, 2) characteris­
tics of objects as apprehended by people, 3) characteristics of people
who do the evaluating, and 4) the actual behavior of people toward ob­
jects. Adler places the first classification of values in the category
of phyla, thereby inaccessible to scientific inquiry. Adler believes
the second meaning of value can never be discovered apart from the human
behavior relating to the specific object. This circularity, according
to Adler, makes them inaccessible to scientific measurement. According
to the third classification, values are conceived as being within the
biological organism. Adler believes values conceived in this manner
cannot be measured by scientific means because such internal events are
inaccessible to direct observation. Adler concludes, therefore, that
the fourth classification of values which equates values with human ac-
tion is the only meaningful definition for scientific inquiry.

Adler's position has been strongly criticized by both Catton (18) and Scott (82). The major criticism raised by both of these observers is a basic one. Each point out that if value is equated with action, it would require a proliferation of terminology such that each different response to an object would require the designation of a different value. Approaching the study at this level, they contend, would imply confining the work of the researcher to simply discerning and recording various empirical phenomena. Consequently, there would be no means available whereby such empirical phenomena could be classified into various recurring categories. They have also pointed out that if one equates values with action, it would at least be necessary to delimit the classes of action. Adler has not done this.

Catton (18) does not consider Adler's third class of values inaccessible to the methods of science. Catton suggests that this class of values is equivalent to "conceived values" as defined by Charles Morris (63). Conceived values are those which are based upon the anticipation of the outcome of alternative behaviors and may be operationally defined as factors to be found through an analysis of preferences. Catton contends that Adler's third class of values are accessible to the methods of science..."if we are willing to adopt the general position that preferential behavior, both symbolic and non-symbolic, can be observed, recorded, and studied" (18, p. 312).

Scott (82) and Catton (18) suggest that defining value as a hypothetical construct rather than as human action is much more useful
both theoretically and empirically. The major gain from employing hypothetical constructs in the scientific explanation of behavior is that they lend economy to the conceptualization of what is an exceedingly complex set of events, virtually incomprehensible to the most superior intellect (82). Such hypothetical constructs have been useful to science since the time of Newton. They lend parsimony to the study of a given phenomena, and allow one to subsume many empirical regularities into one theory.

Values as influential standards

Many sociologists and anthropologists have considered values to be influential standards. These scholars have defined values as normative standards or normative criteria by which human beings are influenced in their choices among perceived courses of action (5, 46, 50, 51, 72, 103, 104). Values therefore, refer to normative (as opposed to existential) propositions concerning what people believe they ought to desire or relations they believe ought to exist between phenomena. Values are the standards upon which evaluations are made; the criteria by which both means and ends are selected. This definition generally implies that the individual is emotionally committed to these standards in such a manner that these standards influence, guide or direct his behavior in a logical manner.

Some of those who have defined values in this manner have made an important distinction between what is desired and that which is desirable (46, 51, 103, 104). They point out that values in the sense of standards
are "conceptions of the desirable." These standards refer to "what I ought to desire" in contrast to "what I do desire". From this point of view, values define the limits of permissible cost of impulse satisfaction in accord with the whole array of hierarchal enduring goals of the personality (51). This distinction, in effect, separates cathexis from values for cathexis is generally considered in a short term or narrow impulse response where value is viewed in a broader or long term sense. The question of value does not arise solely on the basis of some need, but only when the possibility of selection is in accord with certain abstract standards (50). Values, therefore, function as 1) imperatives in judging how one's social world ought to be structured and operated and 2) standards for evaluating and rationalizing the propriety of individual and social choices.

There are several difficulties with this approach to values. One difficulty has been the failure on the part of those who have used this type of definition to see the distinction between definition and proposition. As Catton (18) has pointed out, the notion that values "influence, guide, channel, direct, motivate, etc. human beings in their choices among alternative choices of actions" should not be included as part of the definition of values but designated as a proposition concerning the relationship between values and behavior. Since the relationship between behavior and values is far from being validated, it appears to be more useful to consider this section of the definition as a hypothesis to be tested rather than an integral part of the definition.

It should also be recognized that the notion values influence,
direct, guide, etc., behavior may imply a causal relationship. This makes the definition even more unsatisfactory, for it is very difficult to establish a-priori a causal relationship between values and behavior. This point will be elaborated in more detail below.

Another difficulty which arises when values are defined as normative standards or normative criteria is the problem of ambiguity (2, 23). It is not clear what these standards refer to. This difficulty can be traced to the latent nature of these standards. Since latent variables are by definition unobservable, a precise definition of these standards or "inner mechanism" is not readily forthcoming. However, considering the usefulness of hypothetical constructs (in a scientific framework), concepts such as values must be defined in latent and non-observable terms to retain their utility. The precise meaning of latent concepts can only be established once sufficient empirical evidence is obtained which show the phenomena behave precisely as predicted by the definition.

**Values as preferences**

Values have also been defined as preferences of an actor for a given object or situation. Robert C. Angell (3) defines values as "lasting preferences for the way in which one's social world is structured and operated" (3). Williams (103) states that, "...a belief is a conviction about something real whereas a value is a preference..." (103, p. 379). Values, therefore, are equated with the relative worth of the perceived alternatives. This definition probably comes the closest to the everyday usage of the term value.

Jacob and Flink (46) have questioned the general applicability of
While admitting this definition may be quite adequate for certain types of problems, they point out that it may not be of much use for other types of problems. The concept preference does not necessarily imply a normative context, for it may apply to things desired as well as things that ought to be desired. As Jacob and Flink have pointed out:

"Another difficulty is that attention is focused rather exclusively upon what ego prefers, and no conceptual distinction is formally made between either 1) ego's drives and/or cathexes and ego's evaluation of the propriety of these drives and/or cathexes, or 2) preferences which are supported by ego's internalized sanctions, preferences which are maintained by the perceived threat of direct physical coercion by alter, and preferences which are not associated with sanctions. We feel that these types of phenomena are in many cases distinguishable at an experiential level, and that, therefore, it would be useful to distinguish them conceptually. Conceptual clarity would seem to dictate on this ground that all of these types of preferences should not be called values" (46, pp. 20-21).

Preferences also are not necessarily enduring and stable. The duration of preferences has not been established empirically so that they may not be an enduring and stable component of the personality system. Thus the equation of preferences with values introduces confusion about the stability and duration of values.

Some conclusions concerning values

This brief survey of how values have been defined by philosophers, sociologists, social psychologists, and anthropologists illustrates why the term is relatively ambiguous and elusive. None of the definitions given above is free of criticism and thus completely acceptable. Both the array of phenomena and the level of conceptualization vary widely from one definition to the next. Until the concept value has been given
a more precise empirical meaning, it is likely that its definition will remain unsatisfactory for scientific inquiry.

Keeping in mind these definitional difficulties, certain generalizations and premises will be set forth concerning the concept value. Although no attempt will be made to consolidate these conclusions into an intensive definition of values, this synthesis will represent the major points that will be included in the definition of values in this dissertation. In view of the fact that values has referred to a large quantity of phenomena, the definition given below should not be considered to be the "correct" one or the only one, but rather an approach to the term value which appears feasible within the context of sociology and this dissertation.

1. Within the context of sociology, value should not be identified with need or object, but rather must be understood as the relation between subject and object. It is a relational rather than an entity concept which rest in a nexus of relationship between subject and object. The locus of value is not to be found in the object but rather in the product of the interaction between subject and object.

2. Value should be conceptually distinguished from attitude and not considered as a system of attitudes. It is plausible to assume that attitudes are formed in a relation to values, but the nature of this formation is most likely a function of each individual's personality structure. The relation between value and attitude can most meaningfully be seen if one considers
the value-expressive function of attitudes as proposed by Katz (48). Value-expressive attitudes have the function of giving a positive expression of each person's central values and the type of person he conceives himself to be. This conceptualization is useful, for it considers values and attitudes within the personality rather than in a societal or correspondence framework.

3. The concept value can be most meaningfully employed if it is viewed as a hypothetical construct. Hypothetical constructs and concepts allow for the grouping of large quantities of related empirical phenomena into meaningful categories. This, in turn, allows for the discovery of important regularities that occur within these hypothetical construct categories.

4. Value can be a useful concept if it is defined as a normative standard or normative criterion. Value, defined in this manner, becomes a more generic concept than when it is equated to either means or ends, for it is defined as standards upon which alternative means and ends may be evaluated. Value should not be defined, however, as an influential or directive force which guides behavior. Defining value as an influential force which guides behavior not only interjects into the definition an unconfirmed hypothesis but introduces a "hopeless and useless circularity" (2) as well.

5. Value is a more useful concept when it is not confused or equated with impulses, preferences, and cathexis. By separating
these concepts from value, value can retain its normative con-
text and be viewed as broad and long range in nature.

Value in this dissertation will be defined as an abstract latent
normative standard which is a product of the interaction between subject
and object and represents an individual's concept of what men ought to
desire and what relationships ought to exist between phenomena.

Types and Properties of Values

A brief discussion of certain of the properties of values and some
of the types of values will now be presented. This examination of the
nature of types of values is an attempt to elaborate the discussion and
definition of values given in the previous section.

Properties of values

Jacob and Flink (46) have listed seven major properties of values.
These properties make it possible to distinguish values from other like
concepts. A property in its strict logical sense implies an attribute
which is common to all members of its class, and implies complete knowl-
edge of the qualities of the phenomena being defined. It is doubtful
that properties of values can be viewed in this manner. Thus it may be
more correct to refer to these as propositions concerning values rather
than as properties. Whether properties or propositions of values, these
distinctions will be useful in later chapters of this dissertation.

1. Values possess the property of selectivity, i.e., the quality
   of ordering the options available in terms which those who have
had to make the choices will accept them as decisive.

2. Values do not have the property of universality. All men are not bound by identical norms in making choices. Variability in values is evident from individual to individual, but this variability from a sociological viewpoint is more meaningful from social group to social group or from culture to culture.

3. Values have the property of continuity from generation to generation. This continuity is derived primarily through the socialization process which generally employs symbols to represent the values communicated.

4. Values can and do change, though they are a relatively stable component of the personality and have a strong influence upon most human beings.

5. Values are associated with the roles which human beings fulfill in society, or which they aspire to fulfill. In this connection, values have the property of imposing obligations, or defining what is socially expected of a person in a certain role.

6. Values have the property of inducing self-evaluation -- the capacity of a person to judge the propriety of his own conduct in reference to standards he has learned to apply to himself. A value conveys to the particular person holding it a sense of personal imperative which makes him feel personally subject to its direction.

7. Values have the property of self-inhibition, i.e., the restraint of action considered improper by the process of internalized
control, rather than by external coercive sanctions (46, pp. 15-16).

Types of values

It is not difficult to find in the literature of sociology and anthropology relatively elaborate taxonomies of values (29, 32, 51, 72). The utility of such taxonomies is quite limited, for it is necessary to have large quantities of information concerning values before these taxonomies can be used. One cannot necessarily establish a-priori such things as the intent of values, the generality of values, or even the intensity of values. For this reason, these taxonomies will not be discussed in detail. Only a few of the key categories which will be used for classification purposes will be described.

The values which will be discussed in this dissertation are considered to belong to the following categories:

1. Group values - these refer to values which can be clearly distinguished among a plurality of individuals or within a given subculture. In the case of this study, the rural population will be considered as a subculture. It is recognized that values are never shared exactly by the same two individuals, so that the category group values will be considered as an abstraction, i.e., statements of central tendencies rather than absolute distribution statements.

2. Explicit values - these are values which are stated verbally by the actors rather than inferred from recurrent trends in behavior.
3. Integrated values - it is anticipated that the values examined in this dissertation will form an interlocking network or configuration.

4. Moral values - the content of the values which will be examined will generally fit into the moral mode of value-orientation as outlined by Parsons and Shils. (72). This mode involved "the various commitments to standards by which certain consequences or particular actions and types of action may be assessed with respect to their effect upon the system of action. These standards define the actors choice with a view of how the consequences of the choices will affect (a) the integration of his personality system and (b) the social system of which he is a participant." (72, p. 60).

Beliefs

The third concept of interest to this study is beliefs. This concept will not be discussed in as much detail as the concept value. An elaborate discussion of this concept is not necessary for two reasons. First, there is very little literature available which is concerned with the concept belief. Sociologists have been much more concerned with values than beliefs in both theoretical and empirical studies. Often beliefs have been subsumed under values or have been combined with them to make up value-orientations. Second, there is little discourse in the literature concerning the definition of the concept belief. There appears to be much more agreement among social scientists concerning the
definition of beliefs than the definition of values.

Beliefs refer to existential propositions held by human beings regarding the structure and operation of the physical and social universe and one's place in it (46, p. 23). A belief is a conviction that something is real or true. Beliefs are man's perception of reality, i.e., what is perceived to exist. Beliefs are enduring cognitions and perceptions which are expected to serve as "vectors which bear upon an individual as he confronts a choice of conduct" (46, p. 23).

There are several types of beliefs which may be distinguished. The types of beliefs which will be examined in this study include cognitive standards and appreciative standards (46, 72). Cognitive standards are existential propositions which serve as criteria to establish the validity and applicability of information, certain stimuli, etc. but are not themselves subject to ultimate verification. Appreciative standards are beliefs which serve as criteria to evaluate the potential result of an act, particularly in terms of its gratificatory significance.

Beliefs are functionally related to values. Often beliefs and values become integrated in such a manner that value-orientations are formed. Value-orientations refer to a set of linked propositions which embrace both normative and existential elements. This interaction between beliefs and values occurs when 1) the normative judgments are based on the group notion of what facts exist and 2) the group's conception of the universe is based partly on prior normative orientation and interests (51, pp. 409-412). In deference to parsimony, values and beliefs will henceforth be called value-orientation when they are being
discussed simultaneously. An attempt will also be made to establish the existence of value-orientations as defined here.

Although closely related, values and beliefs are not identical. Values are normative statements whereas beliefs are existential statements. Beliefs (as defined here) define the possible courses of action, but unlike values provide no indication if such a course of action has a positive or negative effect (41, p. 38). Beliefs are concerned with categories such as "true" and "false", "correct" or "incorrect". Values refer primarily to "should" and "should not"; "right" and "wrong" (51, p. 432). Since both values and beliefs have their basis in the perceptions and cognitions of the actor, they do not necessarily bear any relationship to scientifically validated "facts", but indicate only what the actor believes to be true or what conditions ought to be.

General Theoretical Scheme

To determine the relationship between values, beliefs, and policy actions and position, several general theoretical schemes of actions will briefly be discussed in this section. Some propositions concerning the relationship between these concepts will be derived from these general theoretical schemes.

Values, beliefs, and human behavior

As noted in the last section, some observers have defined value as a directive or influencing force that shapes and guides human behavior. The emphasis placed upon value as a directive force of behavior varies
considerably. Stein and Cloward, for example, maintain values "determine the choices men make, and the ends they live by" (90, p. 263), whereas Blake and Davis (10) prefer to "abandon the use of values as influential or directive agents and to recognize them frankly as sheer constructs by which we attempt to fill in subjective linkages in the analysis of social causation."

Few social scientists take the extreme position of Stein and Cloward (90) who consider values as the sole determinate of behavior. A majority view values as only one of the important variables which influence behavior. Those who have attempted to develop general theories and models of behavior (at various levels of complexity) consider values and beliefs to be one of several important components. Jacob and Flink (46) specify three variables as being essential in the determinate of action. These include values, beliefs, and impulses. Although they do not consider these to be all of the determinates of action, they believe that these three factors and the interaction of these three factors exert a significant influence upon a person which predisposes him to act in a specific manner when he responds to a different stimuli. The concepts value and belief also play a crucial role in the Parsons and Shils general theory of social behavior (72). Parsons and Shils propose that the fundamental elements of action can be classified into two major categories -- the motivational-orientations and the value-orientations of an individual. The distinction between the motivational-orientation and the value-orientation is an important one. Motivational-orientation refers to those aspects of the actors orientation which are related to
actual or potential gratification or deprivation of the actors need-dispositions. The value-orientations, on the other hand, refer to those aspects of the actors orientation which commit him to the observance of certain norms, standards, criteria of selection, etc., whenever he is in a contingent situation which allows him to make a choice (72, p. 59).

The motivational-orientation elements refers to such things as needs, desires, i.e., psychologically based phenomena which roughly parallel the impulse category of Jacob and Flink. It may be pointed out that although motivational-orientation elements are essential to the understanding of total behavior, they are outside the scope of interest in this dissertation. They are only important in so far as they are clearly distinguished from the value-orientation category of action.

Another general model of behavior which considers values and beliefs as important determinates of action has been synthesized by Bohlen and Beal (12). This is the so-called SIR model. When man is confronted with a stimulus (S), he looks into his past experiences to determine if he has previously encountered similar stimuli. If he finds he has been confronted with the same stimulus before, he attempts to recall how he responded to this stimuli at that time. He also recalls his evaluation of that response in terms of his satisfaction with the outcome of his response. He then compares the former response with other alternatives in terms of which alternatives will maximize what he is attempting to accomplish. This phase is called the interpretation (I) phase. He then responds (R) to the stimuli (S) on the basis of his decision reached during the interpretation (I) phase of the action process.
Beliefs and values are two of the important elements in the interpretation process. Beliefs determine the range of alternatives and values provide the actor with a basis upon which he can judge how desirable the alternatives are. In the model, values are considered as a pattern of judgments concerning the relative satisfactions gained from each experience. Values, therefore, serve as organizing agents in the interpretative phase of the SIR model, for they are conceived to organize both ends and means into hierarchies on the basis of favorability and acceptability to the actor.

An important element in any theory of human action is the situation. This element is recognized by Parsons and Shils (72), Kluckhohn (51), Thomas and Znaniecki (93), and Newcomb (67). These writers suggest that one cannot expect a perfect correspondence between values, beliefs and behavior because behavior is a function not only of value-orientations but of the immediate situation as well. Newcomb (67), for example, suggests that human behavior is a function of the interaction of three variables: experience, current attitudes and values, and the current situation. He further suggests that although one cannot assign relative weights to these variables, one must view the relationship between one of these variables and behavior with respect to the other two elements.

On the basis of these remarks, it would be expected that the relationship between values, beliefs, and behavior can be more completely understood if one has knowledge of certain situational variables. This hypothesis will be examined more completely in the last chapter of this
dissertation.

This very superficial examination of some of the theories and models of behavior suggests that values and beliefs are considered to be as important elements in the determination of action, but not the sole determinates. There are many other variables such as the situation, needs, desires, impulses, and past experience which must also be considered. It should be pointed out that this review has not sought to discuss these theories in detail, but rather has sought only to determine the role of values and beliefs within these general theories.

On the basis of the preceding discussion, it would be expected that values and beliefs would be related to policy behavior, i.e., policy positions and actions. This relationship should also be a predictable one, for certain types of values and beliefs would be expected to be related to certain types of policy alternatives. This latter point will be explored more in detail in the latter half of this chapter.

The following general hypothesis can now be stated:

**General Hypothesis 1:** There will be a predictable relationship between the policy positions and policy actions of individuals and their values or beliefs.

Williams (103) and Newcomb (67) have suggested that even the most simple choice situations involves not single values, but complexes of values and value configurations. Thus a number of values may influence any response an actor may give to any given stimuli. Beliefs relevant to behavior are also often multiple and, as has been mentioned above, are often organized with values into interdependent systems known as value-orientations. As Williams has stated, "...values are not simply
distributed at random, but are instead interdependent, arranged in a pattern, and subject to reciprocal or mutual variation" (103, p. 382).

The importance of considering value configurations and value-orientations can be seen when one considers those situations involving value inconsistencies and/or value conflicts. For example, if it was known that a certain individual valued independence, one might expect that he would reject those government programs which would interfere with his freedom to make his own management decisions. If this individual, however, also valued commutative justice, i.e., a belief that the government should take the necessary steps to assure him a fair return for his labors, he may actively support government programs in an action situation. In this specific case, knowledge of only a single value dimension would have yielded opposing results. If one had knowledge of the value dimension commutative justice, the predicted result would have occurred (although the presence of independence might have resulted in a weaker relationship than expected). If one only had knowledge of the dimension independence, however, an unexpected result would have occurred. Knowledge of both dimensions would provide the observer with the most meaningful basis upon which his prediction could be made, and should provide him with better results than if he had knowledge of only one of the two value dimensions.

These considerations lead to the second and third general hypotheses:

**General Hypothesis 2:** Certain values and beliefs will form value configurations or value-orientation configurations.

**General Hypothesis 3:** There will be a relationship between policy
actions and policy positions and a weighted combination of certain value configurations and value-orientation configurations.

This last general hypothesis is derived from General Hypothesis 1 and General Hypothesis 2. Paraphrasing these three general hypotheses, it is postulated 1) that individual value and belief dimensions are related to policy behavior, 2) that certain of these value and belief dimensions form value or value-orientation configurations, and 3) that these value or value-orientation configurations are, in turn, related to policy behavior. It is also expected that knowledge of these value and value-orientation configurations will serve as useable predictors of policy behavior.

**Values, beliefs and behavior in an empirical setting**

To this point, values and beliefs have been examined only in a theoretical setting. The discussion will now briefly focus on the research work which has been conducted using these concepts. Values have been studied very extensively by many sociologists. The results of these empirical investigations have been somewhat disappointing. Those who have worked in this area have used a variety of definitions of values which have referred to a great variety of phenomena. In addition, the methods which have been employed have differed widely both with respect to validity and reliability. Consequently, it is difficult to draw very meaningful conclusions from many of these empirical studies.

Findings from studies concerning values and behavior have been summarized by Dukes (27) and Berelson and Stiener (8). A review of these inventories of findings and a sample of the literature reveals
that, on a whole, the empirical investigation of values has been somewhat inconclusive. The studies generally have not demonstrated high correspondence between values and behavior. DeFluer and Westie (23) have called this result the "fallacy of expected correspondence." Poor methodology, poor definitions of value, lack of consideration of other factors such as those mentioned above, and lack of conceptual clarity have all probably contributed to this lack of correspondence. In light of these relatively ambiguous conclusions, it is even more difficult to understand the reason for the inclusion of the hypothesis "which influence behavior" in many of the definitions of value.

The findings concerning the relationship between beliefs and behavior are also inconclusive. Many of the studies which have been concerned with the concept belief have aggregated beliefs with values and called them value-orientations (16, 26, 41, 42, 77, 80, 111). Some studies have found moderately strong relationships between beliefs and behavior, but other studies have found little or no relationship between these variables. As in the case of values, important differences in methods, definitions, and theoretical orientation are evident in these studies making evaluation and comparison of the results most difficult.

A few studies have established the existence of value-complexes and value-orientation configurations. Hobbs (41), in a study of factors associated with farm management ability found that economic motivation, scientific orientation, mental activity, independence and risk aversion were all related and formed a meaningful configuration. Scott (82) found
that independence, intellectualism and creativity formed an "inner-directed" configuration of values while loyalty, kindness, status, self-control, religiousness, and social skills formed an "other directed" set of values. Bales and Couch (4) have also isolated value configurations through the use of factor analysis.

The author has been able to find only a few studies which have been concerned with either values, beliefs, or attitudes and farm policy behavior (34, 47, 62). None of these studies have examined empirically the relationship between values, beliefs and farm policy behavior.

**Value-orientations and cause**

Although only a few social scientists have explicitly stated that there is a causal relationship between values, beliefs and behavior, many have claimed that these variables "influence", "guide", "channel", "direct", etc. behavior. These latter terms, while not being synonymous for the term cause, nevertheless, can be suggestive of causal relationships between value-orientations and behavior. As Timasheff (94) has pointed out, it is fashionable today to avoid the term cause and replace it with terms which are not quite so objectionable but still imply quasi causal connotations. The appearance of this new "metalanguage" is probably due to the attractive features of the notion of cause and the scientific prestige which is associated with it.

It is recognized that the notion of cause is indeed desirable and a necessary and sufficient condition to make the explanation of any phenomenon complete. However, the suggestion that the relationship between values, beliefs and behavior is a causal one is highly questionable. It
is extremely tempting to suggest that behavior is caused (at least in part) by value-orientations because it gives one an unfailing explanation of behavior. Yet, certain flaws are evident not only in the logic but also in the evidence at hand. A causal proposition, at the very least, must be asymmetrical, invariant, contained within a closed system, tested in a dynamic situation, and be necessary and sufficient (11, 94, 110). The relationship between value-orientations and behavior most likely conforms to none of these conditions. For example, this relationship is probably not asymmetrical, for it is likely that interaction occurs between these variables. Values and beliefs may direct behavior in one instance whereas behavior may form values and beliefs in another instance. Scott (82) has pointed out two functions of values which imply this symmetrical relationship:

1. Values play a guiding role in the formation of behavior.
2. Values also play a rationalization role of behavior, i.e., the execution of a given behavioral act is justified on the basis of some value. This second function clearly implies the relationship between values and behavior is a symmetrical one.

The empirical studies which have been conducted concerning the relationships between value-orientations and behavior offer little evidence that values are causal agents. As noted above, these studies taken as a whole have been inconclusive. In many cases, the relationships reported have been of such a low magnitude that one is lead to the conclusion that value-orientations and behavior may be relatively orthogonal.

Consequently, the relationship between value-orientations and
behavior will be viewed in this dissertation only as a relationship. Until more empirical evidence is obtained about the nature of the formation of value-orientations, such relationship statements are probably the most useful. Relational statements can provide one with a great deal of information concerning why behavior takes a given pattern. They also can result in very useful constructs from which succinct taxonomies of behavior can be built. In other words, knowledge of a person's value system provides one with a great deal of knowledge about his potential behavior pattern.

The following statement by Blake and Davis (10) summarizes the major points in this discussion:

"A more satisfactory use of 'values' in sociological analysis is to abandon them as causal agents and to recognize them frankly as sheer constructs by which we attempt to fill in subjective linkages in the analysis of social causation. For example, the movement of peasants to cities during the process of industrialization is not 'explained' by saying that they prefer the bright lights to the city to the drab monotony of the village. Only when the evolving economic and social situation in both village and the city are taken into account can we begin to explain this recurrent social phenomena. It helps us to understand the process, however, if we can get some inkling of how the peasants' feelings and thoughts take shape in view of these conditions; and so we try to put together a model of his memory actions and test it against the various kinds of empirical evidence including his verbal statements." (10, p. 461)

Rural Value-Orientations and Farm Policy Positions

The focus of the discussion will now concentrate on the specific values and beliefs which will be examined in this dissertation. In the following sections each of these values and beliefs will be derived, a justification for their selection will be given, and a definition of
each will be stated. The various sub-general hypotheses associated with
the general hypotheses discussed above will be derived. Not all of the
values and beliefs are logically related to every policy choice and ac-
tion. In other words, the theoretical system developed here is not in-
tended to be exhaustive, but is concerned only with those relationships
between value-orientations and policy behavior which appear to have a
logical basis.

**Traditional and contemporary rural value-orientations**

Many observers of American rural life have enumerated and elaborated
the values and beliefs which they consider to be predominant in rural
America. During the early part of this century, most of these observers
contended that the value-orientations of rural people were quite homog-
eneous and distinct from the value-orientations of their urban counter-
parts. Sorokin (89), Taylor (92), Bernard (9), and Loomis (61) accepted
this premise and constructed elaborate taxonomies which carefully clas-
sified the rural population on a multitude of dimensions. One of these
devices, called the "rural-urban" continuum, portrayed rural inhabitants
as highly independent, conservative, and traditional in contrast to
urban people who were more dependent, liberal, and innovative. The
"rural" end of this continuum has been identified with the familistic
Gemeinschaft society (61) which characterizes rural people as sacred,
functionally diffused with a high interaction of roles, and isolated.
These observers also suggested that the rural people of this time ad-
hered to many of the precepts of the Protestant ethic. The rural popu-
lation, therefore, was considered to be a distinct homogeneous subculture
holding value-orientations unlike those of other subcultures.

Many of the early rural sociologists proposed that fatalism, traditionalism, debt avoidance, risk aversion, farming as a way of life and individualism were values and beliefs widely held by rural people. These values and beliefs were considered to constitute a value-orientation which was unique to rural people. To determine why these writers considered these values and beliefs to be adhered to by a majority of the rural people, each will be examined individually.

Fatalism may be defined as a personal philosophy which maintains that events and man's destiny are determined by external forces in advance so that man has no control over what happens to him. Schuler and Taylor (80), Landis (55), and Sorokin (89) all considered fatalism to be an important belief of American rural people. These writers suggested that the basis for this association was the high dependency of the farmer upon the elements. They proposed that rural people believed they had little power to manipulate nature, for they had often seen nature bring unexpected disaster to themselves and/or to their neighbors and friends. They perceived themselves as subjugated to nature rather than being master over it. This belief has also been found to be present in many other societies (52).

Traditionalism has been defined as the conviction that "past tested" methods rather than relatively new untried methods should serve as guides for decision-making. The roots of traditionalism were generally thought to reside in rural pragmatism -- a philosophy which emphasizes the value of those things which are practical and necessary, not ornamental (55).
The conservative nature of the farmer was also believed to be a factor in his adherence to traditionalism (9, 55, 80, 105). The uncertainty of farm life coupled with geographical and social isolation lead to a fixity of habits which produced a value-orientation that stressed the use of known methods and a suspicion of innovations.

A value closely associated with traditionalism is debt avoidance. Landis (55) and Taylor (92) suggested that farmers have always strongly desired to own the land they work, for they believe that ownership of land results in higher profits and serves as a means of security. For these reasons land has been considered a tangible property, one which has deep meaning for the farmer as an ultimate material value. Landis and Taylor reasoned that farmers were willing to forego many of the material things in life in order to accumulate enough money to eventually purchase the land (and related equipment) they desire. This situation has been highly instrumental in the formation of the value debt avoidance -- the belief that capital should be accumulated rather than borrowed before one purchases any goods, services and property for either maintenance or expansion purposes (55, 92).

Debt avoidance was also associated with the Protestant ethic notion of thrift. The rural population was characterized as placing a high value on the notion of using money wisely and not wasting money on frivolous or non-essential goods (31). There have been historically many patterns of thrift in the agricultural community including the laying up of home produced foodstuffs, the saving of seed, etc. Many of these patterns of thrift were developed as insurance against any
unexpected situation which might be harmful to the farm family. These two factors, the habit of thrift and the uncertainty associated with farming, have reinforced the value of debt avoidance, for they have discouraged the farmer from purchasing unnecessary goods and encouraged the buying of necessary goods on a cash basis (31, 55).

The value of risk aversion was associated with rural society by these writers for essentially the same reasons as debt avoidance. Risk aversion refers to the belief that a farmer should use assured and predictable practices in his farming operation to reduce risk as much as possible. Landis (55) pointed out that the farmer generally had to wait a long time for his returns so that he had to always plan his spending wisely. In addition, the magnitude of the returns in farming were, to some degree, uncertain so that the farmer never was assured of a certain level of income. These factors together with those mentioned above concerning debt avoidance were the basis on which these early writers identified risk aversion as one of the values which was common among rural inhabitants.

Another belief which was identified by various writers with the rural subculture is farming as a way of life (9, 55, 66, 71, 77). This belief advocates that farming is the most "natural" and desirable way to live and is an end in itself. It emphasizes the non-economic returns of farming. It was contended that this belief had its basis in the history of the family farm (55, 66, 71). During the frontier period and during a part of the present century, the family unit on the farm was forced by necessity to work together on both inside and outside activities in order
to survive. Out of this cooperative framework emerged the belief that the farm was an ideal place to raise a family, enjoy family living, and develop high moral standards and other desirable characteristics. Studies during the late 1930's and early 1940's indicated that the majority of the rural population considered farming to be an ideal occupation not only because of the financial rewards, but more importantly because they believed it was an ideal place to raise a family and live cleanly (80, pp. 502-503). This belief also has some basis in the notions of Jefferson. Jefferson considered farming to be an occupation which developed social virtues basic to the life and backbone of any great nation (96).

Probably the value which was most often identified with the rural population is individualism (9, 31, 41, 55, 71, 77). Individualism may be defined as the belief that an individual should be self-sufficient and responsible for solving his own problems and making his own decisions. Goldstein and Eichhorn (31) have suggested that individualism is one of the major dimensions of the Protestant ethic and also of early frontier life. The rural family, because of social and physical isolation, were compelled to make their own decisions. The Protestant ethic complemented this situation, for it became common for the rural inhabitants to consider the responsibility for their action a moral obligation. In some areas (particularly at the time of frontier society) individualism became more a norm than a value, for it became expected behavior for an individual to become self-sufficient and work out his own problems.

All of these values and beliefs are associated with the traditional
concept of farming, i.e., the belief in the family farm system, the work ethic, close contact with nature, visibility of accomplishment, thrift, vocational prestige, and a high appreciation for the non-monetary rewards of farming (66). Those writers who described American rural society of the 1880-1940 period considered these values and beliefs to be interrelated and form the core of the traditional rural value-orientation configuration (9, 55, 61, 80, 89, 92). As can be seen above, the common background from which these values and beliefs emerged, the overlap in content, and the complementary interrelation of all of these values and beliefs would lead one to expect that they would form a meaningful configuration. More formally:

**Sub-Hypothesis 2A:** Fatalism, traditionalism, farming as a way of life, debt avoidance, risk aversion, and individualism will form an interrelated value-orientation configuration.

Observers of present day rural society believe the value and belief patterns are changing in emphasis and becoming more heterogeneous (56, 57, 62, 84, 86, 91). The important technological and social changes in the last two or three decades have resulted in significant changes in the rural value-orientation structure. Many farmers appear to be moving closer to the value-orientations of the majority of society (1, 56, 57). Since this change is not universal among farmers, rural value-orientations are now in a state of transition. Consequently, the values and beliefs found in American rural society are believed to be a mixture of traditional value-orientations and non-rural societal value-orientations.

Sjoberg (86) has proposed that these recent changes in rural society
make such notions as the rural-urban continuum and Gemeinschaft and Gesellschaft no longer very meaningful distinctions in American society. Rural society is no longer a closed and isolated system, but is interacting directly and indirectly with all of society. This contention has been corroborated by several empirical studies (7, 34, 105). It has been found that rural people do not differ significantly from the rest of society on such things as opinions on public affairs, conservatism, radicalism, and fundamentalism. Thus the past conceptions of the term rural are no longer very meaningful (6).

The nature of the shift and changes of rural value-orientations closely parallels the changes in the rest of society. The rapidly developing industrial sector of our society and the accompanying technological advances have resulted in significant changes in American beliefs and values. There has been a steady decline in the Protestant ethic and a counterpart to this value system is now emerging. There is presently an emphasis upon ways of maintaining and enhancing personal development under the conditions of modern life. Even though individualism is still strong, a new belief in the group is emerging. Now there is a strong emphasis upon 1) the group as a source of creativity, 2) the notion that belongingness is the ultimate need of the individual, and 3) a faith in the application of science to achieve this belongingness (101). These new value-orientations are based on the premise that modern man is an active participant in the manipulation of his destiny and finds meaning and strength through constant association with others.
Although farmers as an occupational group appear to be moving closer to the central value-orientations of society, this does not imply that all rural people are abandoning or have abandoned more traditional value-orientations. Within the rural population there "...is a wide diversity in the extent of adherence and intensity of adherence to some of the most dominant value orientations, and probably even more diversity with respect to lesser values" (56, p. 147). The more societal value-orientations are relatively inconsistent with most of the traditional value-orientations. This inconsistency has been a major factor in certain conflicts over policy within the rural community. This conflict will be discussed more in detail below.

Some of the contemporary values which various writers have contended are replacing the traditional value-orientations in the rural area include scientific orientation, risk orientation, and income maximization (31, 42, 101, 103). These do not constitute the entire array of contemporary values and beliefs, but represent mainly the counterparts to the traditional value-orientation complex. As in the case of the traditional values and beliefs, each of these contemporary values will be defined and the relevant commentary related to each summarized.

Scientific orientation is a value which is widely held in American society (103). The high value placed upon science and the extensive application of science to all types of problems has become commonplace. Scientific orientation may be defined as a value which advocates that 1) scientific findings should be applied to all aspects of our everyday life and 2) scientific findings and the scientific method should serve
as the criteria for the selection among alternative courses of action. Scientific orientation is the counterpart to traditionalism, for it places emphasis upon new innovations and new ideas which offer an entire array of alternative means to obtain given ends. In another respect, scientific orientation also is the converse of fatalism. The notions of manipulation of nature and mastery over nature, which are directly contrary to the premises of fatalism, are explicit in scientific orientation.

Numerous studies have linked scientific orientation to such things as innovativeness, adoption of practices, economic rationality, and management ability (42, 60, 78). These findings suggest that scientific orientation is an important value to a number of people within rural society.

The interest in science on the part of farmers is not entirely new. The land-grant system and the resultant research and dissemination of information to the farming population have a long history. The vast technological changes in farming in the last three decades, however, have quickened the pace of farmer interest in science. The large amount of research carried out by both public and private agencies, the convincing demonstrations of the effectiveness of new and revolutionary practices, the general increase in educational experience, and the availability of technical information concerning these new methods have all influenced certain farmers to change from a traditional orientation to a scientific orientation.

In summary, it can be said that those individuals who adhere to scientific orientation consider new as well as proven alternatives,
evaluate means in relation to ends, and employ science as the criteria for choices among alternatives.

Risk orientation places emphasis upon using methods which are perceived as involving elements beyond the individual's control for purposes of gaining certain predetermined ends. Risk orientation is not only associated with the modern business world, but has also been associated with the business type farming operation (42, pp. 59-63). Risk orientation is also closely associated with scientific orientation. They both represent orientations toward mastery rather than passive acceptance and a faith in rationalism as opposed to traditionalism (104). Risk orientation is an alternative to both traditionalism and debt avoidance.

This association between scientific orientation and risk preference is an historical one. As man discovered more and more about nature and how to manipulate it, a corresponding reduction in risk occurred. Man became more confident that he could control nature and determine his own fate. He acquired a new faith in science and at the same time began to see that risk could be predicted within certain parameters (17).

The change from risk aversion to risk orientation on the part of certain farmers has been associated with the interest of these farmers in higher profits (17, 41, 42, 77). Risk orientation has been found to be positively associated with adoption of new practices, full use of capital available, and gross and net income (38, 39, 41, 42, 77). It would appear that many of those farmers who are interested in higher returns are not only willing to take chances on new practices or methods, but are also willing to make the necessary investment to employ these
practices. Thus the increasing interest in materialism and science by the society as a whole has resulted in a significant change in the risk patterns of many farmers.

Another recent change in the value-orientation of the American farmer has been a stronger emphasis on viewing farming as a business rather than as a way of life. This value will be called maximization of income. It refers to the belief that farming should be considered primarily as a business operation and a means to economic ends such as yield and profit. Maximization of income is related to risk orientation and scientific orientation, for all three values are considered to be related to the attainment of economic ends (41, 60, 77, 78). Maximization of income has been identified as a dominant value in current American society (104), and has been found to be a very important value in many parts of rural society (42).

This value represents a significant change in the traditional concept of farming. Farming is considered to be a means by which profit can be gained for the attainment of other ends, not an end in itself. In addition, this value de-emphasizes the notion that farming should be concisely and purposely distinguished from other vocations (71). It might be said that this change from emphasizing farming as a way of life to farming as a business represents one of the more significant changes in contemporary rural American society.

The nature of the relationship between these contemporary values as outlined above suggests the following hypothesis:

Sub-Hypothesis 2B: Scientific orientation, maximization of income,
and risk orientation will form a value configuration.

Thus two different value-orientations within rural society can be identified: the traditional configuration and the contemporary configuration. Certain relationships between these value-orientations and policy positions and actions can be predicted. As has been shown above, recent trends in American agriculture have challenged the traditional concept of farming. The farming community is becoming less isolated, farm sizes are increasing beyond the limits of the traditional "family farms", and the rural subculture is becoming more integrated into the whole of American culture through direct and indirect interaction. Farmers are becoming more risk oriented, credit has become an essential part of farming, and advancements in technology have given farmers a new faith in science and thus a confidence in their ability to control their own destiny. It would be expected that farmers who adhere to the traditional value-orientation would desire to preserve farming in its most basic form and resist these changes which are occurring. They would be expected to support government programs which would restrain the development of this new type of agriculture.

Alternatively, agricultural restraint programs would be highly inconsistent with the content of the contemporary value-configuration. Restraint programs are designed to perpetuate certain types of inefficiencies and retard technological progress in agriculture. Since those holding the contemporary value-configuration have, almost by definition, a high regard for efficiency and technological advancement it is expected that they would strongly reject restraint programs. These considerations lead to the following two sub-hypotheses:
Sub-general Hypothesis 1A: There will be a positive relationship between the policy positions of farmers concerning agricultural restraint programs and their adherence to each of the values and beliefs of the traditional value-orientation configuration.

Sub-general Hypothesis 1B: There will be a negative relationship between the policy positions of farmers concerning agricultural restraint programs and their adherence to each of the values of the contemporary value configuration.

The contemporary value configuration is explicitly associated with a higher regard for the scientific method, technological advancement, and efficiency. The auxiliary adjustment programs have been considered by many to be the most rational and objective means to develop and encourage efficient farming. These programs are designed to move people out of agriculture, give them the necessary skills to find work in non-farm occupations, and thereby eliminate the small inefficient farm units which often provide their occupants with a very meager livelihood. Therefore it would be expected that those people who adhere to the contemporary value configuration would be attracted to the auxiliary adjustment programs.

On the other hand, those holding to the traditional value-orientation configuration would be expected to reject programs which hasten adjustments in agriculture. These programs are designed to bring about changes in agriculture more quickly, changes which threaten the traditional concept of rural life. For purposes of this analysis the following sub-general hypotheses are stated:
Sub-general Hypothesis IC: There will be a negative relationship between the policy positions of farmers concerning auxiliary adjustment programs and their adherence to each of the values and beliefs of the traditional value-orientation configuration.

Sub-general Hypothesis ID: There will be a positive relationship between the policy positions of farmers concerning auxiliary adjustment programs and their adherence to each of the values of the contemporary value configuration.

A third category of farm programs which is likely to be related to the traditional value-orientation is income transfer programs. A recent study by Quinney (76) provides information which is germane to this discussion. Quinney found that traditionalism and fatalism were associated with low status people. He also found that these people were politically alienated from the rest of society and appeared to be more responsive to liberal political measures. Quinney reasoned that these people occupy marginal positions in the social structure, have the weakest ties with the social order, receive the smallest benefits from it, and have the fewest opportunities to participate in it. He concluded that these people are most responsive to those political measures which could immediately improve their existence.

The income transfer programs are the most direct form of aiding low socio-economic groups. On the basis of these findings, it would be expected that those who adhere to the traditional value-orientation configuration would favor income transfer programs.

These considerations suggest the following hypothesis:
Sub-general Hypothesis 1E: There will be a positive relationship between the policy positions of farmers concerning income transfer programs and their adherence to each of the values and beliefs of the traditional value-orientation configuration.

It may be recalled that a third general hypothesis concerning the relationship between value-orientation configurations and farm policy behavior was derived in the preceding section. Since this hypothesis (General Hypothesis 3) is concerned with the multiple relationship between values, beliefs, and farm policy, the sub-general hypotheses related to General Hypothesis 3 are justified on the basis of the theoretical discussion presented directly above. Therefore, these sub-general hypotheses can be stated without further discussion.

Sub-general Hypothesis 3A: There will be a relationship between the policy positions of farmers concerning agricultural restraint programs and auxiliary adjustment programs and the weighted combination of their adherence to the traditional value-orientation configuration and the contemporary value configuration.

Sub-general Hypothesis 3B: There will be a relationship between the policy positions of farmers concerning income transfer programs and a weighted combination of their adherence to the values and beliefs of the traditional value-orientation configuration.

Values and beliefs specifically associated with farm policy

There are certain values and beliefs which have been explicitly associated with farm policy positions and actions. These values and beliefs are primarily a product of recent changes in the role of government in
agriculture. As will be seen, certain of these values and beliefs conflict with one another in principle and implication. This conflict is considered to be related to the variety of views concerning the overall farm program (15, 20, 35).

Three of these values and beliefs are independent action, individualism, and government dominance. These values and beliefs will be referred to as the independent action value-orientation configuration. Each will be discussed individually.

Independence is a value which has long been associated with rural living. Observers of rural America (55, 80, 92) have suggested the farmer acquired his desire for independence in the following manner. The farmer has generally been alone during much of his work and has been forced to make his own decisions. Thus he has developed a strong image of self-sufficiency and self-reliance. He has become accustomed to being his own boss. He views himself not as a wage earner, but as a manager of his own business and his own affairs. This desire for independence has been so common among the farming population that it is considered to be one of the precepts of the "agricultural creed" (71).

The changes in the American society during the last forty years have had an impact on the importance attached to independence (20). Prior to the 1930's, American farmers were able to live and work in relative isolation, accountable to no one and free to run their business as they pleased. The impact of the Great Depression and World War II altered this situation. The Depression forced the farmer to turn to the government for assistance in areas where previously assistance had been
neither needed nor desired. The war years and those which immediately followed resulted in an unparalleled acceleration of farm production and an accumulation of surpluses. Many farmers began to believe that the market place no longer renumerated them a just reward for their labors so that independence came into sharp conflict with other values. The farmers were forced to give up some of their independence if they desired what they considered to be a fair return. Thus the general adherence to independence diminished to some degree, for other values which conflicted with independence were seen as being equally as important (71).

For purposes of this dissertation, independence will be referred to as independent action. Independent action will be defined as a value which stresses that everyone should make his own decisions and run his business unimpaired by any external force.

Independent action is highly related to individualism, but should be differentiated from it. Individualism implies that decision-making is a personal responsibility. Thus, this value has certain ethical and moral overtones. Independent action, although based upon this ethic of self-integrity, carries no ethical connotations. Independent action only emphasizes that a man should be able to make his own decision and solve his own problems without any outside interference.

Individualism has been defined and discussed above in the section concerning the traditional value-orientation complex. It is relevant here because of its high association to independent action. Individualism, like independent action, emphasizes that problem solving and
decision-making should be done by the individual and no one else should
do it for him.

Government dominance refers to the belief that government is placing
too many restrictions and controls on the farmers' efficiency, earning
possibilities, and freedom to manage their farming operations. This be-
lief is at a different conceptual level than the beliefs discussed above.
Whereas the beliefs discussed before can be included in the category of
cognitive standards, government dominance is an appreciative standard.
It is basically a perceptual concept which is focused on the result of
a given action.

The basis of this belief can be traced to the emergence of govern-
ment programs. Most government programs require the farmer to control
his production in a certain way if he wishes to receive the benefits of
the program. The belief government dominance can be considered as a
reaction to these programs, for it represents the farmer's perception
of the relative constraints these programs place on his freedom and
economic returns.

It would be expected that government dominance would be positively
related to independent action and individualism. An individual who per-
ceives some external agent to be restraining his freedom in some manner
would also be expected to strongly desire that freedom.

The other set of values which is specially related to farm programs
can be called the collective action set of values. This complex includes
collective action, commutative justice and distributive justice. Collec-
tive action may be defined as the belief that problems should be solved
and business decisions should be made through cooperation with others. Collective action has an historical bases in the rural society. In the early 1900's, this value was reflected in the cooperative movement. At that time, the emphasis of collective action was basically concerned with the collective purchasing of inputs for production and therefore had little impact upon the decision-making freedom of the farmer. The Depression and the impact of technological advancement, however, broadened the emphasis of collective action. Faced with many new problems, a number of farmers decided that solutions to these problems could best be obtained through a cooperative effort. Thus they were willing to shift some of the responsibility of decision-making from the individual to the group. Such concepts as collective marketing, quota systems, and collective withholding of crops and livestock became popular with certain farmers. Many farmers also began to consider the government as an appropriate agency through which collective action could best be achieved.

The terms commutative justice and distributive justice have been borrowed from Brewster (15). However, he has used these terms in a broader sense than they will be used in this study. In this dissertation, distributive justice will refer to the belief that the government should equalize opportunity and income so everyone has the necessary means to develop to their full potential. Commutative justice will refer to the belief that the government should guarantee everyone a fair return for their contribution to society.

It has been hypothesized that commutative justice and distributive justice are closely associated with collective action (15, 20, 35).
Collective action does not directly conflict with distributive justice and commutative justice, and in many instances complements them. It is probable that many of those who adhered to collective action define the government as a means by which group decisions can be expressed and implemented. It would be expected that they consider the programs of the government to be important means to solve such problems in agriculture as low incomes, unequal opportunity, and poor returns for their contribution to society.

It should be pointed out that prior to the 1930's, farm people attempted to obtain equality of opportunity and a fair return through such governmental programs as the Homestead Act, the Morrell Act, the Hatch Act, the Federal Land Bank, and the Farm Credit Administration. This approach to obtain distributive and commutative justice did not significantly conflict with independent action. Technological changes and the accumulation of surpluses, however, placed these two values in sharp conflict with independent action. It became difficult under the new system to obtain what was judged to be a fair return and income equality and still retain complete freedom in decision-making. One had to be sacrificed for the other.

On the basis of the foregoing discussion it would be expected that the collective action set of values and the independent action set of values and beliefs form value-orientation configurations. More formally:

Sub-general Hypothesis 2C: Collective action, commutative justice, and distributive justice will form a value configuration.

Sub-general Hypothesis 2D: Independent action, individualism, and
government dominance will form a value-orientation configuration.

These two configurations are clearly in conflict with one another. This conflict has important implications for farm policy actions and positions. Independent action and individualism emphasize the role of the individual in decision-making and the freedom to act as one chooses. It would be expected that those who strongly adhere to independent action and individualism would reject the constraints and controls of government programs. The same pattern of rejection would be expected for those who perceive government programs as being more restrictive than they desire.

It is expected that those who adhere to these three values and beliefs would reject both voluntary and compulsory price-supply management and control farm programs. Both of these program types require those who participate to conform to certain production regulations and give up some entrepreneurial freedom. Because of the explicit restrictive nature of the compulsory programs, it is expected that these programs would be more strongly rejected by those who adhere to the values and beliefs of the independent action configuration than the voluntary government programs.

It also appears logical that the individual who adheres to the independent action, individualism, and government dominance will favor some alternative policy to government farm programs. The approach which would probably maximize these values and beliefs would be a free market system, for this system places no restraints on the individual. It has been proposed that those individuals who adhere to the independent
action configuration will view the market system as the best determinate of a person's contribution to society and the place where he will ultimately receive a fair return and equality of income and opportunity regardless of present conditions (35).

On the other hand, those who adhere to collective action, distributive justice, and commutative justice would be expected, on the basis of the preceding discussion, to view government intervention as an acceptable approach to solving the problems facing farmers. It is expected that those who adhere to these three values would support and participate in voluntary programs, compulsory programs, and auxiliary adjustment programs. The voluntary and compulsory programs (as defined here) are designed to control production so that prices will remain relatively stable at some reasonable level. These programs are designed to deal with problems such as low income and poor returns. The auxiliary adjustment programs are very direct means to equalize opportunity in both the farming and non-farming sector. Thus those who believe that an acceptable way to solve such problems as low income, unequal opportunity and poor returns is by collective action through government intervention could achieve their objectives by supporting these three types of programs.

It seems logical to assert that those who adhere to collective action, commutative justice, and distributive justice would reject the free market system. It has been proposed that farmers who hold these three values do not believe that a fair return can be obtained in such a system (35). It has been suggested that they believe they have little
power to control the market system and, therefore, consider the market a poor alternative to obtain a fair return or equality with other sectors of the economy (35).

The hypothesized relationship between past, present, and proposed programs and these two value-orientations are summarized below:

**Sub-general Hypothesis IF:** There will be a positive relationship between the policy positions of farmers concerning compulsory price-supply management and control programs and their adherence to each of the values of the collective action value configuration.

**Sub-general Hypothesis IG:** There will be a positive relationship between the policy positions of farmers concerning voluntary price-supply management and control programs and their adherence to each of the values of the collective action value configuration.

**Sub-general Hypothesis IH:** There will be a positive relationship between the participation by farmers in past and present farm programs and their adherence to each of the values of the collective action value configuration.

**Sub-general Hypothesis II:** There will be a negative relationship between the policy positions of farmers concerning compulsory price-supply management and control programs and their adherence to each of the values and beliefs of the independent action value-orientation configuration.

**Sub-general Hypothesis IJ:** There will be a negative relationship between the policy positions of farmers concerning voluntary price-supply management and control programs and their adherence to each of
the values and beliefs of the independent action value-orientation configuration.

Sub-general Hypothesis 1K: There will be a negative relationship between participation by farmers in past and present farm programs and their adherence to each of the values and beliefs of the independent action value-orientation configuration.

Sub-general Hypothesis 1L: There will be a positive relationship between the policy positions of farmers concerning the auxiliary adjustment programs and their adherence to each of the values of the collective action value configuration.

Sub-general Hypothesis 1M: There will be a negative relationship between the policy positions of farmers concerning the free market program and their adherence to each of the values of the collective action value configuration.

Sub-general Hypothesis 1N: There will be a positive relationship between the policy positions of farmers concerning the free market program and their adherence to each of the values and beliefs of the independent action value-orientation configuration.

Sub-general Hypothesis 3C: There will be a relationship between the policy positions of farmers concerning compulsory price-supply management and control programs, voluntary price-supply management and control programs, and the free market program and a weighted combination of their adherence to the collective action value configuration and the independent action value-orientation configuration.

Sub-general Hypothesis 3D: There will be a relationship between the
policy positions of farmers concerning auxiliary adjustment programs and a weighted combination of their adherence to the values of the collective action value configuration.

**Sub-general Hypothesis 3E:** There will be a relationship between the participation of farmers in past and present farm programs and a weighted combination of their adherence to the collective action value configuration and the independent action value-orientation configuration.

These constitute the major values and beliefs which have been proposed to be related to farm policy both directly and inferentially. As was pointed out in the introduction of this section, all of the values and beliefs discussed to not relate logically to every type of farm program category. It is also recognized that the intensity of the relationships between the various value-orientation configurations and farm programs categories will vary from category to category. Some of these intensity variations have been mentioned above. However, it is important to note that whereas the direction of the relationship between the variables of interest can often be predicted, the degree of intensity of those relations cannot.
METHODS AND PROCEDURES

Having derived the hypotheses to be tested in this dissertation, the discussion will now focus upon the methods and procedures employed to collect the data and to test these hypotheses. The first section of this chapter will be concerned with the methods and procedures involved in the collection of the data. The second portion will be devoted to the development of the empirical measures designed to operationalize the theoretical concepts. The final section will discuss the procedures followed in the analysis of the data.

The data used to test the hypotheses in this research are part of those collected in conjunction with Iowa Agricultural Experiment Station Project 1493: "The Relationship Between Values and Attitudes and Position Taken by Farm People Regarding Agricultural Adjustment and Policy." The leaders of the projects were Drs. George Beal and Joe Bohlen of the Department of Economics and Sociology of Iowa State University. The general objective of the project was to "...determine the value and attitude complexes, and their interrelationship, that will predict the positions or actions of individuals in relation to agricultural adjustment and policy." 1

Collection of Data

**Interview schedule and questionnaire**

The data gathered for this study were obtained from a schedule and a questionnaire. The questionnaire used in this study was developed

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1 This statement is from the project proposal submitted to the Agricultural Experiment Station at Iowa State University for the grant of funds to enable this research to be conducted.
primarily by the project leaders, Dr. George M. Beal and Dr. Joe M. Bohlen, and the former project co-ordinator, Charles Elder. The author became actively involved in the project after a majority of the scale construction was completed. The questionnaire was pre-tested relatively extensively. A description of the questionnaire and its development will be given in the section on Construction of Indices.

The final interview schedule was developed primarily by the author and the project leaders, Drs. Beal and Bohlen, with the assistance of Charles Elder. Prior to its use in the field, the interview schedule was pre-tested by the author and Charles Elder on ten randomly selected Story County farm operators. The specific information obtained from the interview schedule will also be discussed in the Construction of Indices section of this chapter.

The field interviewing conducted in conjunction with the project was supervised and co-ordinated by the author.

Sample and field procedure

The subjects of this study were Iowa farm operators who farmed 100 or more acres of land and make the major management decisions for the farm firm. These criteria were used to insure that a high majority of the farmers interviewed were full-time farmers. This selection procedure was relatively effective, for approximately 90 percent of the sample can be considered full-time farmers.

The respondents included in the sample were selected from the six economic areas of Iowa using a stratified sampling technique. This sample was drawn by the Iowa State University Statistical Laboratory.
Within each of these economic areas, three counties and three segments within each of the selected counties were selected at random. Figure 1 indicates the location of the six economic areas of Iowa and the 18 counties included in the sample. The number of farmers interviewed in each county can also be found in Figure 1.

It was expected that the sample selected would yield approximately 225 qualified respondents. The interviewers contacted 207 respondents who met the criteria stated above. Nearly 8 percent (16 farmers) of these 207 respondents refused or were unable to be interviewed. Of the remaining 191 respondents, 5 failed to complete the schedule and/or the questionnaire. Thus 186 respondents were included in the analysis. The discrepancy between the actual and expected number of respondents contacted (225 and 207) was due mainly to the rural population changes which had occurred since the census information upon which the sample was based had been gathered.

The study was conducted during March and April of 1964. As mentioned above, the means for data collection consisted of a questionnaire and a schedule. The questionnaire contained 127 value and belief statements. These statements were left with the respondent to complete at his convenience. The interviewer was instructed to explain the procedure for responding to the statements, leave the questionnaire with the respondent, and return and pick up the completed copy at an appointed time. When the interviewer returned, the schedule was administered. The schedule contained questions relating to farm program preferences and participation, farm policy, and certain situational and personal characteristics.
Figure 1. Location of farms included in sample
Characteristics of the sample

Table 1 presents a summary of some selected characteristics of the 186 farmers. Unless otherwise noted, all characteristics of the sample members are for the year 1963. A comparison of the characteristics of these farmers and the characteristics of all farmers in the counties included in the study is also given.

The farms surveyed are above the average on the amount of land farmed and the number of acres of corn planted. This is to be expected, for the criteria for inclusion in the study eliminated farmers who farmed less than 100 acres. The farmers surveyed, however, were below the average on number of acres planted in soybeans. The 186 farmers rent more land and consequently own less land than the average farm resident in their respective areas. They feed more hogs but less cattle, and are younger than the average farm operator.

The range of most of the characteristics is quite wide. The standard deviations of many of the characteristics is also relatively large. These parameters suggest that the members in the sample are relatively heterogeneous and thus represent a cross section of full-time Iowa farmers. An examination of the distributions of these characteristics substantiates this contention.

Construction of Indices

In this section a description of the methods used to construct the various indices will be presented. In each case, the logic and rationale will be given for the way in which each concept is operationalized as an
Table 1. Characteristics of the sample

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Sample</th>
<th>Census average</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Range</td>
<td>Average</td>
</tr>
<tr>
<td>Farm size (no. of acres)</td>
<td>110- 926</td>
<td>270.6</td>
</tr>
<tr>
<td>Percent of acres owned</td>
<td>42.8</td>
<td></td>
</tr>
<tr>
<td>Percent of acres rented</td>
<td>57.2</td>
<td></td>
</tr>
<tr>
<td>Corn acres</td>
<td>0-345</td>
<td>91.5</td>
</tr>
<tr>
<td>Soybean acres</td>
<td>0-250</td>
<td>36.6</td>
</tr>
<tr>
<td>Number of cattle fed</td>
<td>0-500</td>
<td>37.6</td>
</tr>
<tr>
<td>Number of hogs fed</td>
<td>0-1,600</td>
<td>162.1</td>
</tr>
<tr>
<td>Operator age 1964</td>
<td>21-74</td>
<td>44.4</td>
</tr>
<tr>
<td>Operator education</td>
<td>6-19</td>
<td>10.5</td>
</tr>
<tr>
<td>Net income - 3 year average</td>
<td>500-13,500</td>
<td>$4,300</td>
</tr>
<tr>
<td>Gross income - 3 year average</td>
<td>2,500-67,000</td>
<td>$12,100</td>
</tr>
</tbody>
</table>

^aSource: (97).

^bSource: (45).

*Commercial farms only.

**Standard deviation.
index. Previous research work which is relevant to the discussion will be reported. Where applicable, estimation of the reliability of the constructed measures will be included.

Due to the multidimensional nature of the theoretical concepts, each concept will be operationalized by a group of measures which are logically related to the theoretical concept. This procedure has been employed to allow for a higher degree of construct validity, i.e., the degree to which the indicator corresponds to the theoretical definition (110). This degree of correspondence between the theoretical concept and the empirical measure(s) of that concept has also been called an epistemic correlation (68).

**Rural value-orientations**

The rural values and beliefs discussed in the theoretical chapter are operationally defined by 14 separate scales. The major reasons for the choice of scales are similar to those of Hobbs (42). He states:

"The choice of scales as measures of the hypothesized value dimensions was predicated on the increased reliability associated with multi-item scales as opposed to single item measures of values or attitudes. In the development of the scales a relatively large number of items judged to be related to the hypothesized dimension were developed in order to partially overcome the problems associated with the functioning of value complexes and thereby increase reliability." (42, p. 82)

In order to employ scaling techniques to measure values and beliefs, it is necessary to make the following assumptions:

1. It is assumed that values and beliefs can be known and such knowledge exists.

2. It is assumed that knowledge of values and beliefs is not
essentially different from other scientific or empirical knowledge.

3. It is assumed that values and beliefs can be meaningfully measured and that verbal statements within a given context can reflect individual values and belief patterns (as defined here).

With respect to Assumption 3, it should be pointed out that some criticism has been leveled against using verbal statements as indicators of a person's values and beliefs (2, 10, 19, 81). These critics have claimed that people will generally do much less than they say they will do. Since values and beliefs have not been defined here as standards which influence or direct behavior, this criticism is not particularly relevant. In other words, the correspondence between what people say and what people do is not an important consideration when forming operational definitions of values and beliefs, for this correspondence is considered only as a proposition and not as an integral part of the definitions of values and beliefs. This question of whether verbal statements can be meaningful measures of values and beliefs will be discussed in more detail in the discussion chapter of this thesis.

Since values and beliefs can only be measured indirectly, i.e., inferred from an individual's behavior, it has been assumed that an individual's response or reaction to a group of scaled statements provide insight concerning the values and beliefs the individual holds (Assumption 3). However, measurement of values and beliefs in this manner is in no way absolute. Rather this form of measurement only determines the
relative ranking of the individuals measured in relation to a specific value or belief dimension. As Hobbs has pointed out, "...even an individual scoring highest on a particular scale may have values and surrogate goals which have a higher ranking in his own preference scale than the value inferred from his responses to the scale items" (41, p. 103). The scores on each scale, therefore, can only be meaningfully examined in relation to one another.

Values and beliefs have previously been discussed and defined in a general and multi-dimensional manner. In a research setting, values and beliefs viewed in this way cannot be meaningfully examined. To overcome this problem, various dimensions of the values and beliefs of interest were defined. These dimensions conceptually refer to the various elements or parts of a given multidimensional value or belief which 1) retain all of the properties of the general value or belief, 2) can clearly be distinguished from other dimensions of the general values or belief, 3) have a relatively homogeneous content, and 4) can clearly be identified. The possibility that the value dimensions are closely associated with the concept attitudes is recognized. The degree of specificity of these value dimensions, however, will not approach the degree of specificity of attitudes with respect to a given object.

The scales constructed to measure the various value-orientations were designed to measure the specific dimensions of the general values and beliefs. The procedure used to develop each of these scales was essentially the same. To minimize redundancy, the procedure will be outlined for the general case. The general procedure followed is based
upon Edwards (28), Hobbs (41), Wolins (107) and certain important suggestions concerning modification and elaboration of these techniques offered by Dr. LeRoy Wolins of the Department of Statistics of Iowa State University.

The initial step of scale construction consisted of the preparation of a number of statements which were considered to reflect the various values and beliefs under consideration. Most of these statements were constructed following the criteria suggested by Edwards (28, p. 14). The source of the initial set of items included conceptual derivations from previous research, inferences from the literature, personality profiles, and suggestions of the project leaders. The number of items developed for each scale depended primarily upon the scope of the general value or belief involved. The range of statements included in each scale was from 19 to 131. In all, 461 statements were prepared at this stage of development. A complete listing of these items is given in Appendix A.

The next steps were to determine the position of each of the statements on a psychological continuum and eliminate the irrelevant statements. This was accomplished by submitting the statements to a panel of judges for their evaluations following the basic procedure of Thurston's equal appearing interval technique (28, pp. 83-86). Each judge was asked to evaluate each statement in relation to a defined value or belief, and decide where he believed the individual who would agree with the statement would be categorized on the given psychological continuum. The instructions and definitions provided for the judges are included
below with the discussion of the specific value and belief dimension.

The judges were provided with 11 categories to evaluate the statements. The category 1 was defined as the extreme negative position and category 11 was defined as the extreme positive position. Category 6 was defined as the neutral point.

The people who served as judges were either faculty members or graduate students in the Sociology Department at Iowa State University and were familiar with the theoretical implications of the values and beliefs of interest. Although it is desirable to have a relatively large number of judges, only 15 were utilized to evaluate these statements. The choice of this small number of judges is justified on the basis of past research (28, pp. 94-95) and the professional qualifications of the judges.

At this early phase of the research project, the final 14 value and belief dimensions were included in 7 general categories for the judges' evaluation. Most of the dimensions were paired and polarized in these categories. Later analysis of the dimensions suggested that the dimensions should be treated individually and not as conceptual polar types. This point will be elaborated below.

A measure of the location and the dispersion of each item (statement) was obtained from the judges' evaluations. Medians were used as a measure of location. They indicated the direction of scoring for the item in the subsequent stages of scale analysis and the relative distribution of the items on a given continuum. The standard deviation determined for each item was used as a measure of dispersion. The degree of
dispersion was considered to be an indication of the degree of agreement among the judges concerning the location of the item. Those items with large standard deviations were deemed to be ambiguous or irrelevant. Arbitrary cutting points were established for each scale. Items which had standard deviation values equal to or greater than the selected cutting point were discarded. The cutting points for items along the 11 point continuum often resembled a bell-shaped curve, since judgments of the extreme items did not vary as much as those close to the neutral category. Items which were judged to fall in the neutral category were discarded because it was expected that such statements would not discriminate between individuals holding opposing values and beliefs. This judgment process reduced the original 461 items to 204 items (44.3 percent).

The remaining items were administered to a sample of 102 Iowa farmers who attended four separate vocational agriculture night classes. Of the 102 farmers who were interviewed, 10 were discarded because of incomplete information. Thus, 92 farmers were included in the final pre-test analysis. Ideally, a random sample of the population of interest should have been pre-tested at this stage of the scale building procedure, but for reasons of economy of time and money, the farmers attending the vocational agricultural night classes were used. These farmers, however, were a representative sample of the population of interest, i.e., full-time Iowa farmers. These classes were located in the central Iowa communities of Ankeny, Clarion, Jefferson, and Jewell.

The objectives of this pre-test were to eliminate all items which
had low discriminating power and obtain basic data from which the final dimensions could be formed. To accomplish these objectives the farmers were asked to respond to each of the 204 statements by indicating if they agreed or disagreed with each one, i.e., they were asked to express their own feelings about each statement. The following instructions were given to the respondents:

Attached is a relatively large number of statements that are designed to determine the opinions of farm people about certain aspects of farming. Many of the statements apply only to farming but there are also many statements that could apply to other occupations and other people as well.

These statements are to be answered by circling either "A" if you agree with the statement or "D" if you disagree with the statement.

After you have reached this decision, please indicate how strongly you agree or disagree with this statement. Please circle one of the numbers from 1 to 5 based on how strongly you agree or disagree with the statement. Circle number 1 if it really didn't make much difference to you whether you agreed or disagreed with the statement. Circle number 5 if you feel very strongly about the statement. That is, it is very important to you. For some of the statements the numbers 2, 3, or 4 may better describe how strongly you agree or disagree with the statement.

Please be sure to include both parts of your response, i.e., whether you agree or disagree and how strongly you do. If you are completely undecided, circle both "A" and "D" indicating you neither agree nor disagree with the statement. There is no need to indicate how strongly you feel in this case.

This is not a test. There are no right or wrong answers to the statements. Just indicate your honest feelings about each statement.

Each item was presented to the respondent in the following form:

1. I admire the person who stands alone. A 1 2 3 4 5 D
It can be seen that the farmers were given five categories (1, 2, 3, 4, 5) to indicate the intensity of their agreement or disagreement with each item. Categories 1, 2, and 3 were assigned their face numerical value while category 4 was assigned the score of 5 and category 5 was assigned a score of 8. This scoring method is patterned after Wolins (107). The scoring was done in such a manner that agreement with positive items (those regarded by the judges as indicating a positive position with respect to the defined dimension) was scored positively and disagreement with a positive item was scored negatively. The scoring procedure was reversed for negative items. Thus the range of responses was from +8 to -8. This scoring procedure for a positive item is shown below:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerical values</td>
<td>-8</td>
<td>-5</td>
<td>-3</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Transformed values</td>
<td>0</td>
<td>3</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>13</td>
</tr>
</tbody>
</table>

As can be seen, each respondent could make 11 different responses. The scores were transformed to a positive scale by adding 8 to each value so that the possible range of the responses on any given item was from 0 to 16.

At the conclusion of this pre-test, the items were arranged into hypothesized sub-dimensions of the original general dimensions. This step was initiated by the desire to develop unidimensional scales which measured only one specific factor. The 7 original general dimensions were divided into 25 factors for statistical analysis. These factors
were formed by grouping the 204 items into logical clusters. Some items were included in more than one dimension whereas other items were not included in any subdimension, but rather were left to "find a home" through later correlation analysis.

Item - total correlations were run on each of the 25 hypothesized clusters. In addition, each item was correlated with the total of every other cluster. This procedure resulted in a 204 by 25 correlation matrix.

It was expected that an item would correlate highest with the cluster total of which it was a part. This expectation was based on the assumption that the item was in fact measuring the same value or belief as the other items in that cluster. It was recognized that this expected correlation was, to some degree, a spurious one because of the built-in correlation of an item with its own cluster. This built-in correlation is a result of the unity in the cell of the matrix and the dependency between an item and the total score.

A modification suggested by Wolins (106) of the Wherry-Winer method for factoring a large number of items was used to eliminate this built-in correlation. This procedure put all items on a common base and determined the factor loading of each item. Thus the correlation of each item with its own cluster was adjusted so that all item-total correlations could be interpreted in the same manner. This procedure resulted in the reduction of the number of clusters involved in the analysis from 25 to 19. It may be pointed out that it might have been possible to save some of these clusters or factors through a more exact test, but
enough dimensions were established without resorting to more refined analysis.

Only 107 of the 204 items pre-tested were included in the final 19 dimensions. These 107 items were 23.2 percent of the original 461 items. All of the items included in the final scales were considered to be related both statistically and logically to one of the clusters. These clusters were therefore considered to be relatively unidimensional groupings or scales. In some cases a group of items were found to correlate not only with one cluster, but to other clusters as well. This commonality factor suggested that certain of the 19 clusters could be grouped together without affecting the unidimensional nature of the specific scales. This grouping reduced the number of scales or dimensions to 14.¹

In passing it may be pointed out that the final 14 dimensions were not determined purely on a statistical basis, but rather from the theoretical framework discussed in the previous chapter of this dissertation. The 7 original dimensions which were submitted to the 15 judges contained these 14 dimensions. In most cases, the various dimensions were polarized, e.g., independent action and collective action, so that the judges could evaluate each item on the basis of a relatively clearly defined dichotomy. Subsequent analysis of these general dimensions suggested that the 14 dimensions would be more unidimensional if they were split from the

¹A much more detailed account of the development of these 14 dimensions is the subject matter of a forthcoming M.S. thesis by Charles Elder. For this reason, the discussion of the scale development process has been limited here to only the essential steps involved and has purposely avoided detailed descriptions of this process.
general dimensions and each treated as an individual scale. The formation of the 25 clusters was an attempt to break down the 14 dimensions of interest into even more homogeneous units to achieve greater unidimensionality. However, the analysis of these 25 clusters, as in the case of the analysis of the 7 general dimensions, suggested that the most meaningful scales were these 14 dimensions.

The final stage of the scale development consisted of presenting these selected items to the 186 Iowa farmers. The items were presented to this sample in the form as they were presented to the pre-test farmers as described above. When the study was completed, the 14 dimensions were rechecked for unidimensionality, reliability and additivity. All of the items met the minimum criteria and therefore all 107 items were included in the final analysis.

Wolins (108) and Cranny (22) have suggested three conditions which are necessary and operationally definable to add items legitimately. These criteria were used to evaluate the final scale items in terms of additivity unidimensionality, and reliability. The criteria used include the following:

1. The relationships among the responses to the different stimuli (items) must be linear.
2. The variance of the responses to different stimuli must be homogeneous and independent of the means.
3. The intercorrelations among the stimuli must be positive and homogeneous.

Many studies in the past have evaluated items on the basis of
item-total correlations, split-plot reliability, Guttman coefficients of reproducibility, etc. However, these means of evaluation only consider the first of the three conditions for additivity. An examination of the items with respect to the other two conditions should provide much more information concerning the relative additivity of the dimensions.

One cannot prove additivity in the same sense that a null hypothesis cannot be proven (108). The degree to which data conform to the condition for additivity can only be determined in a relative sense. The means which will be used to evaluate the scales relative to the three conditions stated above are primarily descriptive. The scales will be evaluated in terms of additivity with respect to one another, and not with respect to some predetermined standard.

To evaluate the items with respect to the three conditions of additivity, it is necessary to establish some criteria. These criteria will establish a basis upon which the scales can be compared to one another. The first condition for additivity will be evaluated on the basis of 1) a comparison between the minimum acceptable item-total correlation coefficient \( r_{it} \) and the field sample \( r_{it} \)'s of each scale, 2) the magnitude of the coefficient of reliability \( r_{tt} \), 3) the magnitude of the average intercorrelation coefficient \( r_{ij} \), and 4) the magnitude of a majority of the intercorrelations among the items of each scale. The minimum item total correlation is defined as \( r_{it} = \frac{1}{\sqrt{n}} \) where \( n \) is the number of items in the given dimension. The minimum item-total correlation coefficient \( r_{it} \) may serve as a quasi significance test of linearity. This coefficient defines the amount of independent variance
of the total score contributed by each item if there were no experimental relationship, i.e., the amount of variance which is contributed only by chance. The coefficient of reliability if defined as \( r_{tt} = \frac{n(\bar{r})}{1 + (n - 1)(\bar{r})} \) where \( n \) = the number of items and \( \bar{r} \) is the average intercorrelation among the items (75).

The magnitude of the intercorrelation coefficients (criterion 4) will be evaluated on the basis of the following arbitrary categories:

1. If approximately 60 percent of the intercorrelation coefficients have values of .19 and below, they will be declared as having a "very low magnitude".

2. If approximately 60 percent of the intercorrelation coefficients have values of .29 and below, they will be declared as having a "low magnitude".

3. If approximately 60 percent of the intercorrelation coefficients have values of .30 and above, they will be declared as having a "moderate magnitude".

4. If approximately 60 percent of the intercorrelation coefficients have values of .50 and above, they will be declared as having a "moderately high magnitude".

The second condition will be evaluated on the basis of an inspection of 1) the pattern of relationships between the item means and item standard deviations and 2) the range of the item standard deviations. If the means and the standard deviations appear to be unrelated, the means and standard deviations will be declared as "relatively independent". If there appears to be some pattern to the relationship between the means
and standard deviations, it will be noted. If only certain items appear to be responsible for a positive or negative relationship between the item means and item standard deviations, they will be singled out and discussed. The distribution of the item standard deviations will be presented and their ranges noted. These ranges will be compared to each other at the end of the discussion of the 14 dimensions.

It should be pointed out that the data concerning the relationship between the item means and item standard deviations can not be very meaningfully evaluated when the number of items of the scale is small. With only a few items, there is not enough data to determine accurately the nature of the relationship between the item means and item standard deviations. Since most of the scales discussed here have less than ten items, the evaluation of the relationship between the item means and item standard deviation should be considered to be rather tenuous. In light of this fact, the major purposes of this analysis will be to illustrate a general procedure which can be used to evaluate additivity and determine the general pattern of relationships between these item means and standard deviations.

The third condition will be evaluated on the basis of an examination of the intercorrelations among the items. This criterion will be evaluated on the basis of the following arbitrary categories:

1. If approximately 60 percent of the intercorrelation coefficients are contracted within a range of two adjacent categories (e.g., .10 to .19 and .20 to .29), these coefficients will be declared as being concentrated in a "relatively narrow range".
2. If approximately 60 percent of the intercorrelation coefficients are concentrated within a range of three adjacent categories, these coefficients will be declared as being concentrated in a "moderately narrow range".

3. If approximately 60 percent of the intercorrelation coefficients are concentrated within a range of four adjacent categories, these coefficients will be declared as being concentrated in a "moderate range".

Once each of the 14 dimensions have been discussed with respect to these various criteria, the scales will be compared to one another on the basis of the degree to which they approach the conditions for additivity. The scales will be evaluated primarily on the basis of how they meet the criteria relative to one another and not relative to any predetermined or absolute standard.

The discussion of the 14 scales which will be presented directly below is somewhat redundant. This redundancy is unavoidable because each of the scales is evaluated with respect to the same criteria. The scales have been examined on the basis of the same criteria so comparisons can be made at the end of the discussion of these 14 dimensions.

**Independent action scale** The independent action scale was constructed as a relative measure of the degree to which farmers believe they should make their own personal and farming decisions without any outside interference. This scale is intended to operationalize the concept independent action developed in relation to and included in Sub-general Hypothesis II, 1J, 1K, 1N, 2D, 3C, and 3E. This scale was
constructed by the methods and procedures outlined in the preceding section of this dissertation.

The independent action scale was originally part of the general dimension called freedom-independence. This general dimension was developed to measure the degree to which farmers believe that a man should make his own decisions and be free to do so. It was designed to discriminate those individuals who considered it right and desirable to act independently from those who relied chiefly upon other persons and/or groups to make their decisions for them. Collective action and individualism were also a part of the freedom-independence dimension. Therefore the general discussion of this dimension given below is relevant to independent action, collective action, and individualism.

The general dimension freedom-independence originally contained 131 statements. A complete listing of these statements appear in Appendix A. The judges were asked to respond to each of the 131 items on the basis of the following set of instructions:

**FREEDOM - INDEPENDENCE**

The following items are intended to measure the degree to which an individual is oriented towards freedom or independence in the business of running his farm. At the freedom end of the continuum, the individual is characterized by a desire to be free and to make his own decisions unimpaired by any external force. At the dependence end of the continuum, the individual is characterized as one who places a relatively high degree of importance to the decisions of others including the groups to which he belongs. This person prefers to base his decisions on the desires and opinions of these sources rather than to make his own independent decisions.

For each of the following items assume that an individual agrees with the item. In which of the eleven categories on the freedom or independence-dependence continuum would you place him? You are not to indicate your own feelings about the
statement but are to indicate your judgment about an individual who would agree with the item.

Please respond on a 1 to 11 continuum as follows:

<table>
<thead>
<tr>
<th>Freedom or Independence</th>
<th>Neutral</th>
<th>Dependence</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 10 9 8 7 6 5 4 3 2 1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Not all of the following statements are "polar" in that they all do not indicate an extreme orientation at one end or the other. Most statements will probably fall between the extreme positions and the neutral point (6). Some may even be judged to be completely neutral. In each case, read over the item, think about the individual who would agree with the statement and place your interpretation in the form of a number to the left of the statement.

The medians (scale values) and standard deviations were computed for each item on the basis of the judges' evaluation of the item. The cutting points for the items varied so that the cutting point for the more extreme items were lower than for the less extreme items. The highest cutting point was at the level of 1.14 standard deviations while the lowest cutting point was at .85 standard deviations. This procedure resulted in the elimination of 78 of the 131 items. The pre-test resulted in the elimination of an additional 20 items leaving 33 items for the freedom-independence general dimensions.

Seven items were included in the final independent action scale. Data relevant to these 7 items are presented in Table 2. The scale values were computed with respect to the general dimension freedom-independence, and not with respect to the dimension independent action.
Table 2. Data pertaining to the items of the independent action scale

<table>
<thead>
<tr>
<th>Item number</th>
<th>Judges standard deviation</th>
<th>Judges scale value</th>
<th>Field sample ( r_{it} )</th>
<th>Field sample ( X )</th>
<th>Field sample standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.77</td>
<td>10</td>
<td>.625</td>
<td>7.85</td>
<td>5.09</td>
</tr>
<tr>
<td>2</td>
<td>.77</td>
<td>9</td>
<td>.469</td>
<td>9.55</td>
<td>4.72</td>
</tr>
<tr>
<td>3</td>
<td>1.09</td>
<td>3</td>
<td>.478</td>
<td>9.65</td>
<td>4.73</td>
</tr>
<tr>
<td>4</td>
<td>1.03</td>
<td>9</td>
<td>.601</td>
<td>10.11</td>
<td>4.95</td>
</tr>
<tr>
<td>5</td>
<td>.91</td>
<td>9</td>
<td>.641</td>
<td>10.82</td>
<td>4.15</td>
</tr>
<tr>
<td>6</td>
<td>.88</td>
<td>8</td>
<td>.539</td>
<td>11.75</td>
<td>4.18</td>
</tr>
<tr>
<td>7</td>
<td>.98</td>
<td>9</td>
<td>.626</td>
<td>12.54</td>
<td>3.82</td>
</tr>
</tbody>
</table>

An examination of Table 2 and the content of the items (Appendix A) indicate that a majority of items have scale values at the positive end of the scale. All of the item \( r_{it} \)'s exceed the minimum acceptable \( r_{it} \) of .376. The means and standard deviations of items 2, 3, 4, 5 and 6 appear to be relatively independent, but when items 1 and 7 are added, the means and variances become somewhat negatively related. The range of the standard deviations of the items is from 3.82 to 5.09. The coefficient of reliability (\( r_{tt} \)) of the scale is .653.

The range of the intercorrelation among the 7 items of the scale is from -.010 to +.367. A majority of the intercorrelations are in the .20 to .39 range, but a significant proportion of the intercorrelations (42.9 percent) are below .20. The average intercorrelation coefficient
$\overline{r}_{ij}$ is .212. Thus most of the intercorrelation coefficients are concentrated in a relatively narrow range, but the magnitude of these coefficients is low. The distribution of the intercorrelations among the seven items of the independent scale can be found in Appendix B.

The possible range on this scale is from 0 to 112. The actual scores ranged from 14 to 112 with a mean of 72.28 and a standard deviation of 17.945. The distribution of the total scores by categories established on the basis of standard deviations appears in Table 3. Both the distribution of the scores and the mean of the total scores reveal that a majority of the farmers scored on the positive end of the scale.

<table>
<thead>
<tr>
<th>Score category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>53 and below</td>
<td>21</td>
<td>11.3</td>
</tr>
<tr>
<td>54 - 72</td>
<td>77</td>
<td>41.4</td>
</tr>
<tr>
<td>73 - 91</td>
<td>58</td>
<td>31.2</td>
</tr>
<tr>
<td>92 and above</td>
<td>30</td>
<td>16.1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>186</td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

$\overline{x} = 72.28$

$s = 17.945$

**Collective action scale** The collective action scale was developed to measure the degree to which farm operators are oriented toward cooperation with other farmers when solving farm problems and making
management decisions even if it involves the loss of some individual freedom. This scale is intended to operationalize the concept collective action developed in relation to and included in Sub-general Hypotheses IF, IG, IH, IL, IM, 2C, 3C, 3D and 3E.

The collective action scale was also originally part of the general dimension freedom-independence. The items included on the collective action scale, therefore, were developed in the same manner as those of the independent action scale. In the original freedom-independence general dimension, the collective action scale constituted the dependence end of the continuum.

The final collective action scale contained 9 items. Data relevant to these items appear in Table 4. An examination of the scale values and the content of the items (Appendix A) reveal most of the items are on the dependence side of the freedom-independence continuum. Only one item (item 2) was on the independence side of the general dimension. All of the item \( r_{it} \)'s exceed the minimum acceptable \( r_{it} \) of .332 (although item 3 and item 6 do not exceed the minimum by much). The means and the standard deviations of all items 1, 2, 3, 4, 5, 6, 7 and 8 appear to be relatively independent. When item 9 is added, the means and the variances exhibit somewhat of a positive relationship. (The comments given above concerning the limitations of this evaluation should be recalled.) The item standard deviations range from 3.30 to 7.67. The coefficient of reliability of the collective action scale is .700.

The distribution of the intercorrelations among the items of the collective action scale (Appendix B) indicates that the coefficients are
Table 4. Data pertaining to the items of the collective action scale

<table>
<thead>
<tr>
<th>Item number</th>
<th>Judges standard deviation</th>
<th>Judges scale value</th>
<th>Field sample ( r_{it} )</th>
<th>Field sample ( X )</th>
<th>Field sample standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.99</td>
<td>8</td>
<td>.478</td>
<td>7.04</td>
<td>4.16</td>
</tr>
<tr>
<td>2</td>
<td>1.11</td>
<td>3</td>
<td>.582</td>
<td>7.87</td>
<td>5.14</td>
</tr>
<tr>
<td>3</td>
<td>1.07</td>
<td>3</td>
<td>.348</td>
<td>9.10</td>
<td>5.08</td>
</tr>
<tr>
<td>4</td>
<td>.93</td>
<td>3</td>
<td>.631</td>
<td>9.36</td>
<td>4.64</td>
</tr>
<tr>
<td>5</td>
<td>.86</td>
<td>3</td>
<td>.671</td>
<td>9.49</td>
<td>5.23</td>
</tr>
<tr>
<td>6</td>
<td>.95</td>
<td>3</td>
<td>.365</td>
<td>9.68</td>
<td>3.67</td>
</tr>
<tr>
<td>7</td>
<td>.95</td>
<td>4</td>
<td>.503</td>
<td>10.29</td>
<td>3.30</td>
</tr>
<tr>
<td>8</td>
<td>1.06</td>
<td>3</td>
<td>.652</td>
<td>10.98</td>
<td>4.52</td>
</tr>
<tr>
<td>9</td>
<td>.95</td>
<td>3</td>
<td>.599</td>
<td>12.40</td>
<td>7.67</td>
</tr>
</tbody>
</table>

concentrated in a moderately narrow range and are of a low magnitude. A majority of the correlation coefficients are contained in the .00 to .29 range. The range of all the intercorrelation coefficients is from .027 to .482 and the average intercorrelation coefficient is .201.

The possible range of total scores on the collective action scale is from 0 to 144 while the actual range was from 3 to 144. The mean total score is 85.75 and the standard deviation is 22.885. The distribution of the total scores by categories established on the basis of standard deviations is presented in Table 5. The distribution of the scores and the mean of total scores indicate that a majority of the farmers scored on the positive end of the scale.
Table 5. Distribution of sample scores on the collective action scale

<table>
<thead>
<tr>
<th>Score category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>62 and below</td>
<td>28</td>
<td>15.1</td>
</tr>
<tr>
<td>63 - 86</td>
<td>65</td>
<td>34.9</td>
</tr>
<tr>
<td>87 - 110</td>
<td>72</td>
<td>38.7</td>
</tr>
<tr>
<td>111 and above</td>
<td>21</td>
<td>11.3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>186</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

\[ \bar{X} = 85.75 \]
\[ S = 22.885 \]

**Individualism scale**  
The individualism scale was constructed to measure the degree to which farmers believe a farmer should be self-sufficient and individually responsible for his actions, and the degree to which these traits are believed to be associated with professional and financial success. This scale is intended to operationalize the concept individualism developed in relation to and included in Sub-general Hypotheses 1A, 1C, 1E, 1I, 1J, 1K, 1N, 2A, 2D, 3A, 3B, 3C and 3E.

The individualism scale was originally part of the freedom-independence general dimension. At the beginning of the project, individualism and independence were conceptually "pooled" at the freedom or independence end of the freedom-independence dimension. Subsequent conceptual and related statistical analysis suggested that individualism should be separated from independent action and treated as a single dimension. The
conceptual reasons for the differentiation of individualism and independent action have been discussed in the theory chapter.

The final individualism scale contained 17 items. Data relevant to these items can be found in Table 6. An examination of Table 6 and the content of the items (Appendix A) reveal that all items have scale values which lie on the freedom or independence end of the continuum. The minimum acceptable $r_{it}$ was computed as .243 and all 17 item-total correlations exceed this value. It may be observed that the item means and standard deviations appear to be relatively independent. The item standard deviations range from 3.54 to 5.20. The reliability of the individualism scale is .817.

The intercorrelations among the items of the individualism scale are concentrated in the .10 - .29 range (Appendix B). The range of all item intercorrelation coefficients is from .005 to .509 and the average intercorrelation coefficient is .207. Thus the intercorrelation coefficients among the items of the individualism scale are concentrated in a relatively narrow range. The magnitude of these coefficients is low.

The actual range of total scores on this scale ranged from 24 to 272 while the possible range of responses is from 0 to 272. The mean total score is 146.08 with a standard deviation of 38.115. The distribution of the total scores (Table 7) and the mean indicate that most of the farmers scored near the center of the scale.
Table 6. Data pertaining to the items of the individualism scale

<table>
<thead>
<tr>
<th>Item number</th>
<th>Judges standard deviation</th>
<th>Judges scale value</th>
<th>Field sample ( r_{it} )</th>
<th>Field sample mean ( \bar{X} )</th>
<th>Field sample standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.88</td>
<td>10</td>
<td>.548</td>
<td>6.02</td>
<td>4.48</td>
</tr>
<tr>
<td>2</td>
<td>1.02</td>
<td>9</td>
<td>.548</td>
<td>6.62</td>
<td>4.21</td>
</tr>
<tr>
<td>3</td>
<td>1.14</td>
<td>8</td>
<td>.342</td>
<td>6.74</td>
<td>5.20</td>
</tr>
<tr>
<td>4</td>
<td>.72</td>
<td>9</td>
<td>.530</td>
<td>6.87</td>
<td>3.54</td>
</tr>
<tr>
<td>5</td>
<td>.85</td>
<td>10</td>
<td>.619</td>
<td>7.02</td>
<td>4.85</td>
</tr>
<tr>
<td>6</td>
<td>.95</td>
<td>8</td>
<td>.513</td>
<td>7.22</td>
<td>4.39</td>
</tr>
<tr>
<td>7</td>
<td>.80</td>
<td>10</td>
<td>.348</td>
<td>7.91</td>
<td>5.02</td>
</tr>
<tr>
<td>8</td>
<td>.85</td>
<td>11</td>
<td>.580</td>
<td>8.14</td>
<td>4.83</td>
</tr>
<tr>
<td>9</td>
<td>.99</td>
<td>9</td>
<td>.496</td>
<td>8.34</td>
<td>4.96</td>
</tr>
<tr>
<td>10</td>
<td>.65</td>
<td>10</td>
<td>.435</td>
<td>8.54</td>
<td>5.17</td>
</tr>
<tr>
<td>11</td>
<td>1.03</td>
<td>9</td>
<td>.620</td>
<td>8.82</td>
<td>4.56</td>
</tr>
<tr>
<td>12</td>
<td>.85</td>
<td>9</td>
<td>.431</td>
<td>9.17</td>
<td>4.47</td>
</tr>
<tr>
<td>13</td>
<td>.77</td>
<td>10</td>
<td>.531</td>
<td>9.98</td>
<td>4.19</td>
</tr>
<tr>
<td>14</td>
<td>.87</td>
<td>9</td>
<td>.517</td>
<td>10.75</td>
<td>3.94</td>
</tr>
<tr>
<td>15</td>
<td>1.01</td>
<td>9</td>
<td>.502</td>
<td>10.81</td>
<td>3.96</td>
</tr>
<tr>
<td>16</td>
<td>1.08</td>
<td>8</td>
<td>.488</td>
<td>11.46</td>
<td>4.32</td>
</tr>
<tr>
<td>17</td>
<td>.71</td>
<td>9</td>
<td>.517</td>
<td>11.67</td>
<td>4.02</td>
</tr>
</tbody>
</table>
Table 7. Distribution of sample scores on the individuals scale

<table>
<thead>
<tr>
<th>Score category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>107 and below</td>
<td>18</td>
<td>9.7</td>
</tr>
<tr>
<td>108 - 146</td>
<td>84</td>
<td>45.2</td>
</tr>
<tr>
<td>147 - 185</td>
<td>60</td>
<td>32.3</td>
</tr>
<tr>
<td>186 and above</td>
<td>24</td>
<td>12.8</td>
</tr>
<tr>
<td>TOTAL</td>
<td>186</td>
<td>100.0</td>
</tr>
</tbody>
</table>

\[ \bar{X} = 146.08 \]

\[ S = 38.115 \]

**Fatalism scale**  The fatalism scale was developed as a relative measure of the degree to which individuals believe man's successes, failures, and all events which happen to him are controlled by forces over which he has no control. This scale is intended to operationalize the concept fatalism developed in relation to and included in Sub-general Hypotheses 1A, 1C, 1E, 2A, 3A and 3B.

The fatalism scale was originally part of the general dimension called mastery. This general dimension was constructed to measure the degree to which individuals believe that a person is able to control the major forces at play which affect his life. It was designed to discriminate those individuals who believe they can control what happens to them and their environment from those who accept the notion that they have little control over their lives and are subject to events which are...
predetermined by circumstances beyond their control.

The general dimension mastery originally contained 19 items. A complete listing of these statements appear in Appendix A. This general dimension had considerably fewer statements in the original list than other dimensions. This was due to the specific nature of the dimension and the lack of subdivisions involved. The judges responded to each of the 19 items according to the following set of instructions:

The following items are intended to measure the degree to which an individual believes he has mastery or control over any situation in which he finds himself. The individual at the mastery end of the continuum is characterized by his belief that he can control what will happen and also be the master of the ensuing events. The individual at the fatalism end of the continuum is one who completely accepts the idea that he has no control over the major forces at play which affect his life.

For each of the following items assume that an individual agrees with the item. In which of the 11 categories on the mastery-fatalism continuum would you place him? You are not to indicate your own feelings about the statement but are to indicate your judgment about an individual who would agree with the item.

Please respond on a 1 to 11 continuum as follows:

<table>
<thead>
<tr>
<th>Mastery</th>
<th>Neutral</th>
<th>Fatalism</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>8</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Not all of the following statements are "polar" in that they all do not indicate an extreme orientation at one end or the other. Most statements will probably fall between the extreme positions and the neutral point (6). Some may even be judged to be completely neutral. In each case, read over the item, think about the individual who would agree with the statement and place your interpretation in the form of a number to the left of the statement.

The medians (scale values) and standard deviations were computed for each item on the basis of the judges evaluations. The cutting points
varied from .73 to 1.20 standard deviations. This procedure resulted in the elimination of 6 of the 19 items.

The pre-test eliminated an additional 8 items leaving 6 items for the mastery dimension. An attempt was made during the pre-test to develop the mastery end of the continuum as a separate dimension. This attempt was not successful. The 6 items which survived the pre-test, therefore, were all related to the fatalism scale.

Data relevant to the items of the fatalism scale appears in Table 8. All of the scale values of the items are near the fatalism end of the mastery dimension (Table 8 and Appendix B). The computed minimum $r_{it}$ is .447. All of the field sample $r_{it}$'s exceed this value. The item means and the item standard deviations appear to be relatively independent. The item standard deviations range from 4.43 to 5.25. The coefficient of reliability is .805.

Table 8. Data pertaining to the items of the fatalism scale

<table>
<thead>
<tr>
<th>Item number</th>
<th>Judges standard deviation</th>
<th>Judges scale value</th>
<th>Field sample $r_{it}$</th>
<th>Field sample mean $X$</th>
<th>Field sample standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.65</td>
<td>2</td>
<td>.751</td>
<td>4.30</td>
<td>4.69</td>
</tr>
<tr>
<td>2</td>
<td>.62</td>
<td>1</td>
<td>.775</td>
<td>5.41</td>
<td>5.25</td>
</tr>
<tr>
<td>3</td>
<td>.95</td>
<td>2</td>
<td>.770</td>
<td>6.21</td>
<td>4.45</td>
</tr>
<tr>
<td>4</td>
<td>.89</td>
<td>2</td>
<td>.692</td>
<td>6.37</td>
<td>4.43</td>
</tr>
<tr>
<td>5</td>
<td>.93</td>
<td>2</td>
<td>.756</td>
<td>6.67</td>
<td>4.48</td>
</tr>
</tbody>
</table>
The distribution of the intercorrelations among the items can be found in Appendix B. The range of a majority of the intercorrelations is relatively narrow, for 80 percent of the coefficients lie between .38 and .49. The overall range of the intercorrelation coefficients is from .383 to .672. The average intercorrelation coefficient is .451. Thus the intercorrelation coefficients are concentrated in a relatively narrow range and are of a moderate magnitude.

The range of the total scores on the fatalism scale is from 0 to 75 whereas the possible range is from 0 to 80. The mean value is 28.96 and the standard deviation is 17.471. Table 9 presents the distribution of scores by categories established on the basis of standard deviations. As can be seen, a majority of the scores are concentrated at the negative end of the scale.

Table 9. Distribution of sample scores on the fatalism scale

<table>
<thead>
<tr>
<th>Score category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 and below</td>
<td>33</td>
<td>17.7</td>
</tr>
<tr>
<td>12 - 29</td>
<td>69</td>
<td>37.1</td>
</tr>
<tr>
<td>30 - 47</td>
<td>51</td>
<td>27.4</td>
</tr>
<tr>
<td>48 and above</td>
<td>33</td>
<td>17.8</td>
</tr>
<tr>
<td>TOTAL</td>
<td>186</td>
<td>100.0</td>
</tr>
</tbody>
</table>

\[ \bar{X} = 28.96 \]
\[ S = 17.471 \]
**Scientific orientation scale**  
The scientific orientation scale was developed to measure in a relative sense the degree to which a farmer believes he should 1) use scientific findings and the scientific method as criteria for selection of alternative courses of action in farming and 2) apply science to farming. This scale was intended to operationalize the concept scientific orientation developed in relation to and included in Sub-general Hypotheses 1B, 1D, 2B, 3A and 3B.

The scientific orientation scale was originally part of the general dimension called belief in science. This dimension was developed to measure the degree to which an individual believes 1) that the determination of all alternatives should be based upon consequences predicted by systematic research and 2) scientific findings should be applied to our environment and everyday life. The belief in science scale was also designed to discriminate those individuals who shared a scientific orientation from those who shared a traditional orientation. Thus the scientific orientation scale was the positive pole of the belief in science scale whereas the traditionalism scale (to be discussed below) constituted the negative pole of the continuum.

The belief in science dimension originally had 96 statements. These statements can be found in Appendix A of this dissertation. The judges were asked to evaluate each of the 96 items according to the following set of instructions:

The following items are intended to measure the degree to which an individual believes in and uses science and scientific findings in his everyday life. The opposite pole of "belief in science" is "traditionalism". The individual at the traditionalism end of the continuum operates primarily on the basis of traditional behavior and does not ask what
are the alternatives but asks only what has been done in the past.

For each of the following items assume that an individual agrees with the item. In which of the 11 categories on the belief in science-traditionalism continuum would you place him? You are not to indicate your own feelings about the statement but are to indicate your judgement about an individual who would agree with the item.

Please respond on a 1 to 11 continuum as follows:

<table>
<thead>
<tr>
<th>Belief in science</th>
<th>Neutral</th>
<th>Traditionalism</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>8</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Not all of the following statements are "polar" in that they all do not indicate an extreme orientation at one end or the other. Most statements will probably fall between the extreme positions and the neutral point (6). Some may even be judged to be completely neutral. In each case, read over the item, think about the individual who would agree with the statement and place your interpretation in the form of a number to the left of the statement.

The cutting points of the items were again varied so that the items with extreme scale values were subjected to lower cutting points than those items with less extreme scale values. The highest cutting point was 1.14 standard deviations while the lowest cutting was .88 standard deviations. The cutting point procedure eliminated 55 of the items. The pre-test eliminated an additional 20 items leaving 21 items for the belief in science general dimension.

The scientific orientation scale contained 15 items in its final form. As can be seen from an examination of Table 10 and Appendix A, all but items 14 and 15 were on the belief in science end of the continuum. The compute minimum $r_{it}$ is .289. All of the items $r_{it}$'s exceed
Table 10. Data pertaining to the items of the scientific orientation scale

<table>
<thead>
<tr>
<th>Item number</th>
<th>Judges standard deviation</th>
<th>Judges scale value</th>
<th>Field sample r_{it}</th>
<th>Field sample X</th>
<th>Field sample standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.99</td>
<td>9</td>
<td>.566</td>
<td>6.07</td>
<td>4.26</td>
</tr>
<tr>
<td>2</td>
<td>.72</td>
<td>10</td>
<td>.430</td>
<td>6.74</td>
<td>4.42</td>
</tr>
<tr>
<td>3</td>
<td>.93</td>
<td>10</td>
<td>.692</td>
<td>7.88</td>
<td>4.04</td>
</tr>
<tr>
<td>4</td>
<td>.93</td>
<td>10</td>
<td>.591</td>
<td>8.77</td>
<td>3.80</td>
</tr>
<tr>
<td>5</td>
<td>.93</td>
<td>10</td>
<td>.475</td>
<td>8.81</td>
<td>3.78</td>
</tr>
<tr>
<td>6</td>
<td>1.14</td>
<td>9</td>
<td>.567</td>
<td>9.19</td>
<td>3.78</td>
</tr>
<tr>
<td>7</td>
<td>.72</td>
<td>10</td>
<td>.717</td>
<td>9.24</td>
<td>3.85</td>
</tr>
<tr>
<td>8</td>
<td>.94</td>
<td>9</td>
<td>.428</td>
<td>9.38</td>
<td>3.80</td>
</tr>
<tr>
<td>9</td>
<td>.98</td>
<td>9</td>
<td>.498</td>
<td>9.68</td>
<td>3.84</td>
</tr>
<tr>
<td>10</td>
<td>.94</td>
<td>9</td>
<td>.655</td>
<td>10.11</td>
<td>3.63</td>
</tr>
<tr>
<td>11</td>
<td>.70</td>
<td>9</td>
<td>.609</td>
<td>11.64</td>
<td>3.89</td>
</tr>
<tr>
<td>12</td>
<td>.80</td>
<td>9</td>
<td>.636</td>
<td>11.97</td>
<td>3.34</td>
</tr>
<tr>
<td>13</td>
<td>.97</td>
<td>8</td>
<td>.476</td>
<td>12.25</td>
<td>2.65</td>
</tr>
<tr>
<td>14</td>
<td>.85</td>
<td>3</td>
<td>.580</td>
<td>12.30</td>
<td>3.10</td>
</tr>
<tr>
<td>15</td>
<td>.85</td>
<td>3</td>
<td>.303</td>
<td>12.82</td>
<td>3.14</td>
</tr>
</tbody>
</table>

This value, although the r_{it} of item 15 exceeds the minimum r_{it} by a small margin. The item means and standard deviations appear to be slightly negatively correlated. The standard deviations range from 2.65 to 4.42. The reliability coefficient of the scientific orientation scale is .835.
An examination of the distribution of the intercorrelations among the items of the scientific orientation scale (Appendix B) reveals that a majority of the correlation coefficients are contained in the .10 to .39 range. The average intercorrelation is .252 and the range of the intercorrelation is .007 to .599. Thus the range of a majority of the intercorrelation coefficients is moderately narrow, and the magnitude of the coefficients is low.

The response to the scientific orientation scale ranged from a low of 32 to a high of 224, with a mean of 146.84 and a standard deviation of 30.546. The possible range on this scale was from 0 to 240. As can be seen in Table 11, a majority of the scores are concentrated at the positive end of the continuum.

Table 11. Distribution of sample scores on the scientific orientation scale

<table>
<thead>
<tr>
<th>Score category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>116 and below</td>
<td>27</td>
<td>14.5</td>
</tr>
<tr>
<td>117 - 147</td>
<td>64</td>
<td>34.4</td>
</tr>
<tr>
<td>148 - 178</td>
<td>70</td>
<td>37.6</td>
</tr>
<tr>
<td>179 and above</td>
<td>25</td>
<td>13.5</td>
</tr>
<tr>
<td>TOTAL</td>
<td>186</td>
<td>100.0</td>
</tr>
</tbody>
</table>

$\bar{X} = 146.84$

$S = 30.546$
Traditionalism scale

The traditionalism scale was developed as a relative measure of the degree to which farmers believe decisions should be based upon older proven practices and methods rather than upon science and scientific innovations. The scale is intended to operationalize the concept traditionalism developed in relation to and included in Sub-general Hypotheses 1A, 1C, 1E, 2A, 3A and 3B.

The traditionalism scale was originally a part of the belief in science general dimension, and it constituted the "traditional" end of the continuum. Therefore, the procedures for item elimination discussed above in this section concerning the scientific orientation scale also apply to the traditionalism scale.

The final traditionalism scale contained 6 items. Data relevant to these items appear in Table 12. All of the items in the scale have scale values which approach the traditionalism end of the belief in science continuum. The computed minimum $r_{it}$ for the traditionalism scale is .410. All of the item $r_{it}$'s exceed this value. There appears to be somewhat of a positive relationship between the means and standard deviations of the respective items. The standard deviations of the items range from 3.81 to 5.23. The reliability coefficient of the traditionalism scale is .740.

The distribution of the intercorrelations among the items indicate that a majority of the intercorrelations are contained in the range .20 to .39. The range of all the intercorrelations is from .077 to .529. The average intercorrelation coefficient is .322. Thus the intercorrelations among the items are concentrated in a relatively narrow range.
Table 12. Data pertaining to the items of the traditionalism scale

<table>
<thead>
<tr>
<th>Item number</th>
<th>Judges standard deviation</th>
<th>Judges scale value</th>
<th>Field sample</th>
<th>Field sample X</th>
<th>Field sample standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.88</td>
<td>2</td>
<td>.658</td>
<td>4.31</td>
<td>4.12</td>
</tr>
<tr>
<td>2</td>
<td>1.08</td>
<td>2</td>
<td>.652</td>
<td>4.99</td>
<td>3.81</td>
</tr>
<tr>
<td>3</td>
<td>.80</td>
<td>2</td>
<td>.673</td>
<td>5.34</td>
<td>3.87</td>
</tr>
<tr>
<td>4</td>
<td>.81</td>
<td>2</td>
<td>.701</td>
<td>5.67</td>
<td>3.78</td>
</tr>
<tr>
<td>5</td>
<td>1.15</td>
<td>2</td>
<td>.710</td>
<td>6.93</td>
<td>4.31</td>
</tr>
<tr>
<td>6</td>
<td>.88</td>
<td>3</td>
<td>.551</td>
<td>8.31</td>
<td>5.23</td>
</tr>
</tbody>
</table>

The magnitude of these coefficients is moderate.

The responses of the farmers to the traditionalism scale ranged from 0 to 96, with a mean of 35.55 and a standard deviation of 16.384. The possible range of the scale was also from 0 to 96. Table 13 presents the distribution of scores by categories established on the basis of standard deviations. The data in Table 13 indicate that most of the total scores are concentrated at the negative end of the scale.

Maximization of income scale The maximization of income scale was developed as a relative measure of the degree to which farmers believe that farming should be viewed primarily as a business and thus a means to economic ends. It also embraces the notion that farming should be abandoned if monetary opportunities are better in non-farm occupations. This scale is intended to operationalize the concept maximization
Table 13. Distribution of sample scores on the traditionalism scale

<table>
<thead>
<tr>
<th>Score category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 and below</td>
<td>23</td>
<td>12.4</td>
</tr>
<tr>
<td>19 - 35</td>
<td>74</td>
<td>39.8</td>
</tr>
<tr>
<td>36 - 52</td>
<td>63</td>
<td>33.8</td>
</tr>
<tr>
<td>53 and above</td>
<td>26</td>
<td>14.0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>186</td>
<td>100.0</td>
</tr>
</tbody>
</table>

\[ \bar{X} = 35.55 \]
\[ S = 16.384 \]

of income developed in relation to and included in Sub-general Hypotheses 1B, 1D, 2B, 3A and 3B.

The maximization of income scale was originally part of the general dimension called image of farming. This general dimension was developed to measure the farmers' general perception of what the occupation of farming ought to be. The scale was designed to discriminate those farmers who perceive farming as a business and a means to obtain economic ends from those who view farming primarily in non-economic returns, i.e., as a "way of life". Thus one end of the image of farming continuum contained the maximization of income scale while the other end contained essentially the farming as a way of life scale.

The image of farming scale originally contained 61 statements. A complete list of these statements can be found in Appendix A. The judges
were asked to evaluate each of the 61 items on the basis of the following set of instructions:

The following items are intended to measure the way in which the individual looks at the occupation of farming. The individual at the economic-rationality end of the continuum is one who looks unemotionally on farming as a business and as an economic pursuit at which he can make money. This type of individual understands basic economic concepts such as marginal return and the rate of return on investment and also recognizes the need for some form of agricultural adjustment. The individual at the nonrational-emotional end of the continuum views farming as a "way of life" and values non-economic returns to a greater extent than he does economic returns.

For each of the following items assume that an individual agrees with the item. In which of the 11 categories on the economic-rationality—nonrational-emotional continuum would you place him? You are not to indicate your own feelings about the statement but are to indicate your judgment about an individual who would agree with the item.

Please respond on a 1 to 11 continuum as follows:

<table>
<thead>
<tr>
<th>Economic-rationality</th>
<th>Neutral</th>
<th>Nonrational-emotional</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 10 9 8 7 6 5 4 3 2 1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In each case, read over the item, think about the individual who would agree with the statement and place your interpretation in the form of a number to the left of the statement.

The medians (scale values) and standard deviations were computed for each item on the basis of the judges evaluation of the item. The cutting points varied from a high of 1.33 standard deviations for some of the less extreme items to a low of 1.07 standard deviations for some of the extreme items. This procedure resulted in the elimination of 37 of the 61 items. The pre-test eliminated an additional 15 items leaving only 9 items for the image of farming general dimension.
The maximization of income scale contains only 3 items. Data pertaining to these items can be found in Table 14. An examination of the scale values and the content of the items (Appendix B) suggest that the items are near the economic-rationality end of the image of farming scale. The computed minimum $r_{it}$ is .576 which is exceeded by all 3 $r_{it}$'s. The item means and standard deviations appear to be independent. The reliability coefficient of this scale is .575.

Table 14. Data pertaining to the items of the maximization of income scale

<table>
<thead>
<tr>
<th>Item number</th>
<th>Judges standard deviation</th>
<th>Judges scale value</th>
<th>Field sample $r_{it}$</th>
<th>Field sample $X$</th>
<th>Field sample standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.12</td>
<td>9</td>
<td>.662</td>
<td>7.61</td>
<td>4.26</td>
</tr>
<tr>
<td>2</td>
<td>.85</td>
<td>10</td>
<td>.779</td>
<td>8.71</td>
<td>4.40</td>
</tr>
<tr>
<td>3</td>
<td>1.07</td>
<td>10</td>
<td>.763</td>
<td>10.66</td>
<td>4.12</td>
</tr>
</tbody>
</table>

The distribution of the 3 intercorrelations among the items indicates that the range which contains these intercorrelations is relatively narrow (.20 - .29) and the correlations are of a low magnitude. The average intercorrelation coefficient is .311.

The range of responses to the maximization of income scale were from 0 to 48 which is equal to the possible range on this scale. The mean of the total scores is 26.98 with a standard deviation of 9.391. The distribution of scores by categories presented in Table 15 reveals
that a majority of the farmers' scores are concentrated near the center of the continuum.

Table 15. Distribution of sample scores on the maximization of income scale

<table>
<thead>
<tr>
<th>Score category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>17 and below</td>
<td>27</td>
<td>14.5</td>
</tr>
<tr>
<td>18 - 27</td>
<td>79</td>
<td>42.5</td>
</tr>
<tr>
<td>28 - 37</td>
<td>54</td>
<td>29.0</td>
</tr>
<tr>
<td>38 and above</td>
<td>26</td>
<td>14.0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>186</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

\[ \bar{X} = 26.98 \]

\[ S = 9.391 \]

Farming as a way of life scale

The farming as a way of life scale was constructed as a relative measure of the degree to which farmers believe that the farm is an ideal place to raise a family and a good place to live and these are reasons enough to stay in farming and maintain as many families in farming as possible. This scale is intended to measure the concept farming as a way of life developed in relation to and included in Sub-general Hypotheses 1A, 1C, 2A, 3A and 3B.

It should be pointed out that the content of some of the items of this scale is not directly related to the theoretical concept. In other words, this scale is a rather poor operational definition of the concept.
farming as a way of life. The content of 4 of the 6 items is more relevant to the traditionalism and debt avoidance scale. It was decided, however, that a 2 item scale would not be very meaningful, so all 6 items have been included. Thus the findings related to this dimension should be interpreted within the context of this situation.

The farming as a way of life scale was originally part of the image of farming general dimension. It constituted the pole defined as nonrational-emotional. The process by which the items on this scale were developed has been discussed above in the section on maximization of income.

Six items make up the farming as a way of life scale. As can be seen in Table 16 and Appendix A, all of the scale values of these 6 items are near the nonrational-emotional end of the range of farming continuum. The computed minimum $r_{it}$ is .410 which is exceeded by all 6 $r_{it}$'s. However, the $r_{it}$'s of items 1 and 2 do not exceed the minimum $r_{it}$ by very much. The item means and standard deviations appear to be relatively independent. The range of the standard deviations is from 4.06 to 4.72. The reliability coefficient of this scale is .520.

The distribution of the item intercorrelations (Appendix B) indicates that almost all of the intercorrelations are contained in the first 3 categories. The range of all item intercorrelations is from .006 to .449. The average intercorrelation coefficient is .153. Thus the concentration of the intercorrelation coefficients is within a relatively narrow range but the magnitude of these intercorrelation coefficients is very low.
Table 16. Data pertaining to the items of the farming as a way of life scale

<table>
<thead>
<tr>
<th>Item number</th>
<th>Judges standard deviation</th>
<th>Judges scale value</th>
<th>Field sample ( r )</th>
<th>Field sample ( X )</th>
<th>Field sample standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.96</td>
<td>4</td>
<td>.431</td>
<td>6.37</td>
<td>4.72</td>
</tr>
<tr>
<td>2</td>
<td>.98</td>
<td>4</td>
<td>.487</td>
<td>7.74</td>
<td>4.06</td>
</tr>
<tr>
<td>3</td>
<td>.98</td>
<td>4</td>
<td>.582</td>
<td>8.61</td>
<td>4.08</td>
</tr>
<tr>
<td>4</td>
<td>.99</td>
<td>3</td>
<td>.542</td>
<td>8.79</td>
<td>4.58</td>
</tr>
<tr>
<td>5</td>
<td>.96</td>
<td>3</td>
<td>.540</td>
<td>9.84</td>
<td>4.56</td>
</tr>
<tr>
<td>6</td>
<td>.96</td>
<td>3</td>
<td>.670</td>
<td>10.49</td>
<td>4.29</td>
</tr>
</tbody>
</table>

The distribution of scores by categories established on the basis of standard deviations appears in Table 17. The range of the scores on the farming as a way of life scale is from a low of 19 to a high of 96.

Table 17. Distribution of sample scores on the way of life scale

<table>
<thead>
<tr>
<th>Score category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>37 and below</td>
<td>27</td>
<td>14.5</td>
</tr>
<tr>
<td>38 - 52</td>
<td>75</td>
<td>40.3</td>
</tr>
<tr>
<td>53 - 67</td>
<td>60</td>
<td>32.3</td>
</tr>
<tr>
<td>68 and above</td>
<td>24</td>
<td>12.9</td>
</tr>
<tr>
<td>TOTAL</td>
<td>186</td>
<td>100.0</td>
</tr>
</tbody>
</table>

\[ \bar{X} = 51.85 \]

\[ S = 14.202 \]
The possible range of this scale is from 0 to 96. The mean total score is 51.85 and the standard deviation is 14.202. The distribution of the scores and the mean indicate that a majority of the scores are concentrated near the center of the continuum.

**Risk aversion scale** The risk aversion scale was developed as a relative measure of the degree to which farmers believe that they should diversify their farming operation and save money to reduce risk and uncertainty in farming. This scale is intended to operationalize the concept risk aversion developed in relation to and included in Sub-general Hypotheses 1A, 1C, 1E, 2A, 3A and 3B.

The risk aversion scale was originally a part of the risk preference general dimension. This dimension was developed to measure the degree to which farmers believed one should use methods which are perceived as involving elements beyond the individual's control for purposes of gaining certain predetermined ends. The risk preference continuum was therefore designed to discriminate those who are willing to try things or do things which involve elements of risk from those who exhibit extreme caution in decision-making and select those alternatives which minimize risk. The risk orientation scale constituted the risk preference end of the general dimension risk preference whereas the risk aversion and debt avoidance scales were grouped together at the risk aversion end of the continuum.

A total of 69 statements were included in the risk preference dimension in the judges evaluation stage of the scale development. Many of the statements were taken from Hobbs (41). A complete list of all these
statements can be found in Appendix A of this dissertation. The judges were asked to evaluate each statement according to the following set of instructions:

The following items are intended to measure the degree to which an individual is oriented towards and willing to take risks. The individual at the risk aversion end of the continuum exhibits extreme caution in the decisions he makes. He never takes chances and always elects "to play it safe".

For each of the following items assume that an individual agrees with the item. In which of the 11 categories on the risk preference-risk aversion continuum would you place him? You are not to indicate your own feelings about the statement but are to indicate your judgement about an individual who would agree with the item.

Please respond on a 1 to 11 continuum as follows:

<table>
<thead>
<tr>
<th>Risk preference</th>
<th>Neutral</th>
<th>Risk aversion</th>
</tr>
</thead>
<tbody>
<tr>
<td>11   10  9  8  7  6  5  4  3  2  1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In each case, read over the item, think about the individual who would agree with the statement and place your interpretation in the form of a number to the left of the statement.

The medians (scale values) and the standard deviations were computed for each item on the basis of the judges evaluation of the item. The cutting points varied from 1.15 standard deviations for those items with less extreme scale values to .96 standard deviations for those items with more extreme scale values. This procedure eliminated 35 of the 69 items (approximately 50 percent). This pre-test eliminated an additional 15 items leaving 19 items on the risk preference general dimension.

The risk aversion scale includes 7 items. Data relevant to these items can be found in Table 18. An examination of the scale values and
Table 18. Data pertaining to the items of the risk aversion scale

<table>
<thead>
<tr>
<th>Item number</th>
<th>Judges standard deviation</th>
<th>Judges scale value</th>
<th>Field sample $r_{it}$</th>
<th>Field sample $X$</th>
<th>Field sample standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.02</td>
<td>3</td>
<td>.462</td>
<td>9.11</td>
<td>3.37</td>
</tr>
<tr>
<td>2</td>
<td>.81</td>
<td>3</td>
<td>.681</td>
<td>9.59</td>
<td>4.14</td>
</tr>
<tr>
<td>3</td>
<td>1.08</td>
<td>3</td>
<td>.574</td>
<td>9.69</td>
<td>3.88</td>
</tr>
<tr>
<td>4</td>
<td>.87</td>
<td>3</td>
<td>.558</td>
<td>10.30</td>
<td>3.54</td>
</tr>
<tr>
<td>5</td>
<td>.72</td>
<td>3</td>
<td>.621</td>
<td>10.76</td>
<td>3.20</td>
</tr>
<tr>
<td>6</td>
<td>1.11</td>
<td>4</td>
<td>.570</td>
<td>11.63</td>
<td>3.43</td>
</tr>
<tr>
<td>7</td>
<td>.75</td>
<td>3</td>
<td>.661</td>
<td>12.62</td>
<td>2.90</td>
</tr>
</tbody>
</table>

The content of the items indicate that the items are near the risk aversion end of the risk preference continuum. None of these scale values are extreme values. The minimum acceptable $r_{it}$ was computed as .376. All of the item $r_{it}$s exceed this value. The item means and item standard deviations appear to be slightly negatively related. The item standard deviations range from 2.90 to 4.14. The reliability coefficient of the risk aversion scale is .689.

The distribution of the intercorrelations among the 6 items indicates that a majority of the intercorrelation coefficients are contained within the .10 to .29 range. The range of all the intercorrelations is from .018 to .527. The average intercorrelation is .241. Thus the intercorrelation coefficients appear to be concentrated in a relatively
narrow range and a majority of the coefficients are of a low magnitude.

The possible range of total scores on the risk aversion scale is from a low of 0 to a high of 112. The actual total scores on this 7 item scale ranged from 30 to 112, with a mean of 73.70 and a standard deviation of 14.425. The distribution of scores by categories established on the basis of the standard deviation appears in Table 19. The mean and the distribution of the total scores on the risk aversion scale reveal that a majority of the farmers' scores are concentrated on the positive area of the scale.

Table 19. Distribution of sample scores on the risk aversion scale

<table>
<thead>
<tr>
<th>Score category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>59 and below</td>
<td>30</td>
<td>16.1</td>
</tr>
<tr>
<td>60 - 74</td>
<td>71</td>
<td>38.2</td>
</tr>
<tr>
<td>75 - 89</td>
<td>60</td>
<td>32.3</td>
</tr>
<tr>
<td>90 and above</td>
<td>25</td>
<td>13.4</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>186</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

$X = 73.70$

$S = 14.425$

**Risk orientation scale** The risk orientation scale was constructed as a relative measure of the degree to which farmers are willing to take chances and use practices which involve unpredictables for social and economic gain. This scale was originally a part of the risk
preference general dimension and formed the risk preference end of the continuum. The scale is intended to operationalize the concept risk orientation which was developed in relation to and included in Sub-general Hypotheses 1B, 1D, 2B, 3A and 3B.

The risk orientation scale contains 6 items. Data pertaining to these items are presented in Table 20. The minimum $r_{it}$ was computed as .410 and all of the field sample item $r_{it}$'s exceed this value. However, items 1 and 3 do not exceed this value by very much. The item standard deviations range from 3.06 to 4.26. The item means and the item standard deviations appear to be negatively related. The reliability coefficient is .423.

A majority of the intercorrelations among the risk preference items are concentrated between .018 and .190 (Appendix B). The range of all items 1 and 3 do not exceed this value by very much. The item standard deviations range from 3.06 to 4.26. The item means and the item standard deviations appear to be negatively related. The reliability coefficient is .423.

A majority of the intercorrelations among the risk preference items are concentrated between .018 and .190 (Appendix B). The range of all
of the intercorrelations is from .018 to .523. The average item intercorrelation was computed as .109. Thus the item intercorrelations are concentrated in a relatively narrow range, but are of a very low magnitude.

The possible range of total scores on the risk orientation scale is from 0 to 96. The actual scores ranged from a low of 20 to a high of 87, with a mean of 55.45 and a standard deviation of 11.307. The distribution of scores by category established on the basis of the scale standard deviation can be found in Table 21. The distribution of the scores and their mean indicate that a majority of the farmers scored on the positive side of the scale, but nearer the center than the extreme.

Table 21. Distribution of sample scores on the risk orientation scale

<table>
<thead>
<tr>
<th>Score category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>43 and below</td>
<td>24</td>
<td>12.9</td>
</tr>
<tr>
<td>44 - 55</td>
<td>68</td>
<td>36.6</td>
</tr>
<tr>
<td>56 - 67</td>
<td>70</td>
<td>37.6</td>
</tr>
<tr>
<td>68 and above</td>
<td>24</td>
<td>12.9</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>186</td>
<td>100.0</td>
</tr>
</tbody>
</table>

\[ \bar{x} = 55.45 \]

\[ s = 11.307 \]

**Debt avoidance scale**

The debt avoidance scale was developed as a relative measure of the degree to which farmers believe that one should accumulate rather than borrow capital before purchasing production and
consumer goods even though this action may mean some temporary discom­
fort. This scale is intended to operationalize the concept debt avoid­
ance which was developed in relation to and included in Sub-general Hy­
potheses 1A, 1C, 1E, 2A, 3A and 3B.

The debt avoidance scale was originally part of the risk preference
general dimension. In the initial stages of the projects, the debt
avoidance scale and the risk aversion scale were both grouped at the
risk aversion end of the risk preference general dimension. Subsequent
conceptual and related statistical analysis suggested that the risk aver­
sion end of the continuum be divided into these two scales. The differ­
ence between these two concepts has been discussed in the theory chapter
of this dissertation.

The debt avoidance scale contained 6 items in its final form. Data
relevant to these items are presented in Table 22. The minimum $r_{it}$
was computed as .410, and is exceeded by all of the individual item $r_{it}$'s.
The item means and standard deviations appear to be somewhat positively
correlated. The items standard deviation range from 3.09 to 4.42. The
$r_{tt}$ is equal to .806.

The distribution of the intercorrelations among the items of the
debt avoidance scale are concentrated in the .30 to .49 range. The over­
all range of the intercorrelation coefficients is from a low of .225 to
a high of .665. The average intercorrelation among the 6 items is .322.
These data indicate that the intercorrelations are concentrated in a
relatively narrow range and are of a moderate magnitude.

The actual range of the total scores on the debt avoidance scale is
Table 22. Data pertaining to the items of the debt avoidance scale

<table>
<thead>
<tr>
<th>Item number</th>
<th>Judges standard deviation</th>
<th>Judges scale value</th>
<th>Field sample ( r_{it} )</th>
<th>Field sample mean ( \bar{X} )</th>
<th>Field sample standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.79</td>
<td>3</td>
<td>.684</td>
<td>3.41</td>
<td>3.77</td>
</tr>
<tr>
<td>2</td>
<td>1.10</td>
<td>3</td>
<td>.649</td>
<td>3.85</td>
<td>3.50</td>
</tr>
<tr>
<td>3</td>
<td>.63</td>
<td>3</td>
<td>.686</td>
<td>3.94</td>
<td>3.09</td>
</tr>
<tr>
<td>4</td>
<td>1.03</td>
<td>2</td>
<td>.751</td>
<td>5.47</td>
<td>4.42</td>
</tr>
<tr>
<td>5</td>
<td>.81</td>
<td>2</td>
<td>.798</td>
<td>6.39</td>
<td>4.37</td>
</tr>
<tr>
<td>6</td>
<td>1.01</td>
<td>3</td>
<td>.694</td>
<td>7.16</td>
<td>4.28</td>
</tr>
</tbody>
</table>

from 0 to 88 with a mean of 30.02 and a standard deviation of 16.522. The possible range on this scale is from 0 to 96. The distribution of the scores by categories established on the basis of standard deviations is presented in Table 23. As can be seen, the large majority of the farmers scored on the negative end of the scale.

Table 23. Distribution of sample scores on the debt avoidance scale

<table>
<thead>
<tr>
<th>Score category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 and below</td>
<td>29</td>
<td>15.6</td>
</tr>
<tr>
<td>14 - 30</td>
<td>65</td>
<td>34.9</td>
</tr>
<tr>
<td>31 - 47</td>
<td>65</td>
<td>34.9</td>
</tr>
<tr>
<td>48 and above</td>
<td>27</td>
<td>14.6</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>186</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

\( \bar{X} = 30.02 \)

\( S = 16.522 \)
Commutative justice scale

The commutative justice scale was developed to measure the degree to which individuals believe that the government should guarantee the farmers a fair return. This scale is intended to operationalize the concept commutative justice developed in relation to and included in Sub-general Hypotheses 1F, 1G, 1H, 1L, 1M, 2C, 3C, 3D and 3E.

The commutative justice scale was originally a part of the role of government general dimension. This dimension was constructed to measure the individual's belief concerning how much government intervention should be necessary to obtain equality of income, equality of opportunity, and a fair return. The dimension was designed to discriminate those who believe the role of the government should be passive from those who believe the role of government should be dominant.

Unlike the scales discussed above, the two scales developed from this general dimension did not emerge from the two poles of this dimension. The commutative justice scale and the distributive justice scale were developed from items which were dispersed over the entire continuum. These two scales were differentiated from the general dimension on the basis of a content analysis of the items and related statistical analysis. The difference between these two concepts has been discussed in the theory chapter.

A total of 40 items were formulated and presented to the judges. A complete list of these statements can be found in Appendix A. The items were submitted to the 15 judges for their evaluation. The judges were asked to place the items on a psychological continuum established by the
following set of instructions:

ROLE OF GOVERNMENT

The following items are intended to measure what the individual thinks the role of government should be in our country. At the "least government" end of the continuum, the individual is characterized as one who feels that the best government is the one that governs least. The individual at the other end of the continuum believes that the government should play a dominant role in the economic activities of the country.

For each of the following items assume that an individual agrees with the item. In which of the 11 categories on the "best government governs least-government plays a dominant role" continuum would you place him? You are not to indicate your own feelings about the statement but are to indicate your judgment about an individual who would agree with the item.

Please respond on a 1 to 11 continuum as follows:

<table>
<thead>
<tr>
<th>Best government governs least</th>
<th>Neutral</th>
<th>Government plays a dominant role</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>8</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

In each case, read over the item, think about the individual who would agree with the statement and place your interpretation in the form of a number to the left of the statement.

The medians (scale values) and the standard deviations were computed for each item on the basis of the judges evaluation of the item. The cutting points varied from a high of 1.09 to a low of .71. This procedure eliminated 20 items. The pre-test eliminated an additional 3 items leaving 17 items on the role of government general dimension.

The commutative justice scale contains 9 items. An examination of Table 24 and the content of these items (Appendix B) reveals that 5 of the item scale values are near the "best government governs least" end
of the continuum. The minimum $r_{it}$ is .332. All of the $r_{it}$'s exceed this value. The item means and item standard deviations appear to be relatively independent. The item standard deviations range from 4.26 to 5.01. The reliability coefficient for this scale is .870.

Table 24. Data pertaining to the items of the commutative justice scale

<table>
<thead>
<tr>
<th>Item number</th>
<th>Judges standard deviation</th>
<th>Judges scale value</th>
<th>Field sample $r_{it}$</th>
<th>Field sample $\bar{X}$</th>
<th>Field sample standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.77</td>
<td>3</td>
<td>.688</td>
<td>5.77</td>
<td>4.64</td>
</tr>
<tr>
<td>2</td>
<td>.88</td>
<td>2</td>
<td>.611</td>
<td>6.19</td>
<td>4.26</td>
</tr>
<tr>
<td>3</td>
<td>.72</td>
<td>9</td>
<td>.664</td>
<td>6.86</td>
<td>4.35</td>
</tr>
<tr>
<td>4</td>
<td>.81</td>
<td>2</td>
<td>.744</td>
<td>7.80</td>
<td>5.01</td>
</tr>
<tr>
<td>5</td>
<td>.83</td>
<td>3</td>
<td>.635</td>
<td>8.23</td>
<td>4.85</td>
</tr>
<tr>
<td>6</td>
<td>.71</td>
<td>10</td>
<td>.762</td>
<td>8.26</td>
<td>4.44</td>
</tr>
<tr>
<td>7</td>
<td>.59</td>
<td>10</td>
<td>.615</td>
<td>8.87</td>
<td>4.74</td>
</tr>
<tr>
<td>8</td>
<td>1.02</td>
<td>9</td>
<td>.766</td>
<td>9.01</td>
<td>4.83</td>
</tr>
<tr>
<td>9</td>
<td>.85</td>
<td>10</td>
<td>.814</td>
<td>9.74</td>
<td>4.92</td>
</tr>
</tbody>
</table>

The intercorrelations among the items are concentrated between .30 and .49. The range of the item intercorrelations is from .264 to .693. The average intercorrelation is .423. Thus a majority of the item intercorrelations are concentrated in a relatively narrow range and are of a moderate magnitude.

The total scores on the commutative justice scale ranged from 0 to
144 with a mean of 70.73 and a standard deviation of 29.480. The possible range of this scale is also from 0 to 144. The distribution of scores on the commutative justice scale and the total score mean reveal that a majority of the scores are concentrated near the center of the scale.

Table 25. Distribution of sample scores on the commutative justice scale

<table>
<thead>
<tr>
<th>Score category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>41 and below</td>
<td>30</td>
<td>16.1</td>
</tr>
<tr>
<td>42 - 71</td>
<td>51</td>
<td>27.4</td>
</tr>
<tr>
<td>72 - 101</td>
<td>81</td>
<td>43.5</td>
</tr>
<tr>
<td>102 and above</td>
<td>24</td>
<td>12.9</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>186</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

\[
\bar{X} = 70.73 \quad \quad \quad S = 29.480
\]

**Distributive justice scale** The distributive justice scale was developed as a measure of the degree to which individuals believe it is the government's responsibility to equalize opportunity, income, security and common welfare (with reference to the imbalance between the agricultural and non-agriculture sector of our economy). The distributive justice scale was originally a part of the general dimension role of government, and was developed in the same manner as the commutative justice scale discussed directly above. This scale is intended to operationalize the concept distributive justice developed in relation to and
included in Sub-general Hypotheses 1F, 1G, 1H, 1L, 1M, 2C, 3C, 3D and 3E.

The distributive justice scale contains 8 items. All of the items except item 8 have scale values which approach the "government plays a dominant role" end of the role of government general dimension (Table 26 and Appendix A). The computed minimum \( r_{it} \) is .332, and all of the field sample \( r_{it} \)'s exceed this value. The item range from 4.21 to 5.01. The item means appear to be relatively independent of the item variances. The scale \( r_{tt} \) is equal to .804.

A majority of the intercorrelation coefficients are concentrated in the .30 to .55 range. The range of all the item intercorrelations is from .145 to .547. The average item intercorrelation \( \bar{r}_{ij} \) is .340.

Table 26. Data pertaining to the items of the distributive justice scale

<table>
<thead>
<tr>
<th>Item number</th>
<th>Judges standard deviation</th>
<th>Judges scale value</th>
<th>Field sample ( r_{it} )</th>
<th>Field sample ( \bar{x} )</th>
<th>Field sample standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.68</td>
<td>2</td>
<td>.722</td>
<td>5.48</td>
<td>4.21</td>
</tr>
<tr>
<td>2</td>
<td>.99</td>
<td>2</td>
<td>.617</td>
<td>5.77</td>
<td>4.52</td>
</tr>
<tr>
<td>3</td>
<td>.95</td>
<td>2</td>
<td>.451</td>
<td>6.10</td>
<td>4.28</td>
</tr>
<tr>
<td>4</td>
<td>.96</td>
<td>2</td>
<td>.699</td>
<td>7.10</td>
<td>4.79</td>
</tr>
<tr>
<td>5</td>
<td>.91</td>
<td>3</td>
<td>.663</td>
<td>7.11</td>
<td>4.43</td>
</tr>
<tr>
<td>6</td>
<td>1.06</td>
<td>3</td>
<td>.681</td>
<td>7.33</td>
<td>4.93</td>
</tr>
<tr>
<td>7</td>
<td>1.01</td>
<td>3</td>
<td>.684</td>
<td>7.40</td>
<td>5.01</td>
</tr>
<tr>
<td>8</td>
<td>1.00</td>
<td>10</td>
<td>.678</td>
<td>7.43</td>
<td>4.40</td>
</tr>
</tbody>
</table>
Thus a majority of the intercorrelations are concentrated in a moderately narrow range, and these intercorrelations are of a moderate magnitude.

The possible range of the total scores on the distributive justice scale is from 0 to 128. The actual range is from 0 to 117, with a mean of 53.72 and a standard deviation of 23.813. The distribution of scores by categories established on the basis of the standard deviation is given in Table 27. A majority of these scores are clustered around the center of the distributive justice scale.

Table 27. Distribution of sample scores on the distributive justice scale

<table>
<thead>
<tr>
<th>Score category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>29 and below</td>
<td>31</td>
<td>16.7</td>
</tr>
<tr>
<td>30 - 54</td>
<td>57</td>
<td>30.6</td>
</tr>
<tr>
<td>55 - 79</td>
<td>77</td>
<td>41.4</td>
</tr>
<tr>
<td>80 and above</td>
<td>21</td>
<td>11.3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>186</td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

\[ \bar{X} = 53.72 \]
\[ S = 23.813 \]

**Government dominance scale** The government dominance scale was developed to measure the degree to which farmers believe government programs and the controls associated with these programs are placing restrictions upon their efficiency, earning possibilities and freedom to manage their farming operations. This scale is intended to operationalize
the concept government dominance developed in relation to and included in Sub-general Hypotheses 1I, 1J, 1K, 1N, 2D, 3C and 3E.

This scale was originally part of a general dimension called perception of government. This dimension was developed to measure a farmer's evaluation of 1) what role he believes the government is playing in agriculture today and 2) what effect government intervention is having upon agriculture. The perception of government scale was designed to discriminate those who believe the government is playing a major role in the determination of the economic affairs of this country from those who believe the government is playing virtually no role in the affairs of this country. The referent for a majority of these items was the agricultural sector.

There were 43 items included in the judges evaluation stage of the scale development. A complete listing of these statements can be found in Appendix A. The judges were asked to evaluate each of these items according to the following instructions:

**PERCEPTION OF GOVERNMENT**

The following items are intended to measure the degree to which the individual feels the government is presently involved in the affairs of our country; especially in the agricultural sector. At the "no role" end of the continuum, the individual is characterized as one who believes the government is playing virtually no role in the affairs of the country at the present time. At the "major role" end of the continuum is the individual who feels the government's role is presently a major factor in determining the economic affairs of our country.

For each of the following items assume that an individual agrees with the item. In which of the 11 categories on the "government playing virtually no role-government playing a major role" continuum would you place him? **You are not to**
indicate your own feelings about the statement but are to indicate your judgement about an individual who would agree with the item.

Please respond on a 1 to 11 continuum as follows:

<table>
<thead>
<tr>
<th>Government playing virtually no role</th>
<th>Neutral</th>
<th>Government playing a major role</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>8</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

In each case, read over the item, think about the individual who would agree with the statement and place your interpretation in the form of a number to the left of the statement.

The cutting points for the items varied from a high of 2.07 standard deviations to a low of 1.00 standard deviations. This procedure eliminated 26 of the 43 items. The pre-test analysis eliminated an additional 14 items. The 3 remaining items formed the government restrictiveness scale.

The cutting points for the items on the perception of government scale are much more liberal than the cutting points established for the scales discussed previously. The attrition rate (93 percent) for items is also by far the highest on this general dimension than for any other general dimension. These two undesirable situations were a result of early difficulties in the construction of the items for the perception of government dimension. An analysis of the judges evaluation of the 43 items revealed that a majority of the items did not fit the psychological continuum defined in the instructions. Over one-half of the item standard deviations were 1.80 and above, indicating a relatively large amount of disagreement over the placement of certain items on the
perception of government continuum. It was decided that the psychological continuum had been poorly defined and that additional analysis was necessary to determine the feasibility of using the items of this dimension. The cutting points therefore, were raised to a point where approximately 40 percent of the items could be included in the pre-test. The results of the pre-test indicated that only three of the items were scalable. The content of these items was much more specific than the original conceptualization of the content of this dimension.

The data relevant to these three items are presented in Table 28. The magnitude of the judges standard deviation should be noted. All of the scale values of the items are concentrated at the "government playing a major role" end of the perception of government general dimension (Table 28 and Appendix A). The computed minimum acceptable $r_{it}$ is .576. It is exceeded by all of the field sample $r_{it}$'s. The item means and item standard deviations appear to be relatively independent, but the small number of items make such an evaluation tenuous. The $r_{tt}$ of this scale is .896.

Table 28. Data pertaining to the items of the government dominance scale

<table>
<thead>
<tr>
<th>Item number</th>
<th>Judges standard deviation</th>
<th>Judges scale value</th>
<th>Field sample $r_{it}$</th>
<th>Field sample $X$</th>
<th>Field sample standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.06</td>
<td>3</td>
<td>.861</td>
<td>7.07</td>
<td>5.10</td>
</tr>
<tr>
<td>2</td>
<td>1.62</td>
<td>3</td>
<td>.924</td>
<td>7.12</td>
<td>4.70</td>
</tr>
<tr>
<td>3</td>
<td>2.07</td>
<td>2</td>
<td>.883</td>
<td>8.16</td>
<td>5.12</td>
</tr>
</tbody>
</table>
The intercorrelations among the three items appear to be concentrated in a relatively narrow range and are of a moderately high magnitude (Appendix B). The range of the intercorrelations is from .583 to .769. The average intercorrelation is .687.

The distribution of the scores by categories established on the basis of the standard deviation is presented in Table 29. The actual range as well as the possible range of total scores on the government dominance scale is from a low of 0 to a high of 48. The mean of these scores is 22.34 and the standard deviation is 13.254. The distribution of the scores and the mean of the scores indicate that a majority of the scores are distributed over a wide range of the scale.

Table 29. Distribution of sample scores on the government dominance scale

<table>
<thead>
<tr>
<th>Score category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 and below</td>
<td>23</td>
<td>12.4</td>
</tr>
<tr>
<td>9 - 22</td>
<td>75</td>
<td>40.3</td>
</tr>
<tr>
<td>23 - 36</td>
<td>59</td>
<td>31.7</td>
</tr>
<tr>
<td>37 and above</td>
<td>29</td>
<td>15.6</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>186</strong></td>
<td>100.0</td>
</tr>
</tbody>
</table>

\[ \bar{x} = 22.34 \]

\[ s = 13.254 \]
Comparison of the 14 scales

A careful reading of the discussion concerning the 14 value and belief scales indicates that these scales vary in the degree to which they possess the properties of additivity, unidimensionality and reliability. An attempt will now be made to evaluate the degree to which these scales appear to possess these properties relative to one another.

Before discussing the degree of conformity of the scale data to the conditions of additivity, a brief evaluation of these scales with respect to some of the criteria which have generally been used in past research is in order. All of the items in each scale exceeded the computed minimum acceptable item-total correlation coefficient \( r_{it} \). Each item was evaluated by a panel of judges and was found to be relatively unambiguous (with the exception noted in the government dominance scale). All items were pre-tested and met the established criteria to belong to the various clusters. In addition, many of these items had been used in similar scales on similar populations, and had met the standard criteria in those studies.

Table 30 summarizes the data relevant to the arbitrary criteria established to evaluate the degree to which each scale conforms to the conditions for additivity. The scales are ordered in Table 30 on the basis of how well each appears to meet these criteria relative to one another. The scales have been placed into three general categories and have been ranked primarily on the basis of differences between categories and not on the basis of differences within categories. The first four scales (government dominance, fatalism, commutative justice, and
distributive justice) appear to conform the best to the criteria. The reliability coefficients ($r_{tt}$) and the average intercorrelation coefficient ($\bar{r}_{ij}$) are among the highest of the 14 scales. All of the item means and item standard deviations were judged to be relatively independent. The ranges of the item standard deviations as well as the ranges of the concentration of intercorrelations are among the smallest of the group. The magnitude of a majority of the item intercorrelations is as high as any in the 14 scales.

The next seven scales (debt avoidance through independent action) are relatively equal in their general conformity to the criteria, although the first three scales (debt avoidance, individualism, and traditionalism) appear to conform somewhat better to these criteria than the last four scales. On the whole these seven scales do not conform as well to all the criteria as do the first four scales. The $r_{tt}$ and $\bar{r}_{ij}$ values for the scales are, in general, lower than those of the first four scales. The means and standard deviations exhibit more relationship and the ranges of the standard deviations are somewhat wider for these scales. Although most of the ranges of the concentration of intercorrelation of these seven scales is as narrow as those of the first scales, the magnitude of these intercorrelations is not as high.

The last three scales (collective action, way of life, and risk orientation) appear as a group to conform the poorest to the criteria for additivity. The intercorrelations among the items of the risk orientation scale and the way of life scale are the lowest of the 14 scales. The $\bar{r}_{ij}$ of these two scales, the concentration of the item intercorrelations
and the relative magnitude of these intercorrelation coefficients all indicate that the size of the intercorrelations of the items of these scales are considerably lower than those of the other scales. An important consequence of this situation is that the $r_{tt}$'s for these scales are the lowest of the group. The items of the collective action scale are also correlated rather lowly, but not quite to the degree of the items of the risk orientation and way of life scale. The most outstanding differences between this scale and the other 13 scales is the very large range of the item standard deviations (3.30 to 7.67). This situation is reflected in the relationship between the item means and item standard deviation, for these parameters appear to be positively related.

These comparisons are admittedly arbitrary and the rankings assigned to the 14 scales may be open to question. These comparisons, nevertheless, provide one with much more information about the scales than such standard measures as item-total correlation coefficients and Guttman coefficients of reliability. These comparisons may also be important in the evaluation and interpretation of the findings, for the presence or absence of certain relationships can be evaluated in light of the general conformity of these scales to the criteria established. These types of evaluations will be conducted to some extent in the discussion section of this dissertation.

It should be pointed out that the number of items in each scale is also an important consideration as far as reliability is concerned. Even though a scale with few items may conform relatively well to the conditions
Table 30. Summary of the scale data related to the criteria of additivity

<table>
<thead>
<tr>
<th>Scale</th>
<th>Number of items</th>
<th>$r_{tt}$</th>
<th>$r_{ij}$</th>
<th>Relationship of $\bar{X}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Government dominance</td>
<td>3</td>
<td>.896</td>
<td>.687</td>
<td>relatively independent</td>
</tr>
<tr>
<td>2. Fatalism</td>
<td>5</td>
<td>.805</td>
<td>.451</td>
<td>relatively independent</td>
</tr>
<tr>
<td>3. Commutative justice</td>
<td>9</td>
<td>.870</td>
<td>.423</td>
<td>relatively independent</td>
</tr>
<tr>
<td>4. Distributive justice</td>
<td>8</td>
<td>.804</td>
<td>.340</td>
<td>relatively independent</td>
</tr>
<tr>
<td>5. Debt avoidance</td>
<td>6</td>
<td>.806</td>
<td>.322</td>
<td>somewhat positive</td>
</tr>
<tr>
<td>6. Individualism</td>
<td>17</td>
<td>.817</td>
<td>.207</td>
<td>relatively independent</td>
</tr>
<tr>
<td>7. Traditionalism</td>
<td>6</td>
<td>.740</td>
<td>.322</td>
<td>somewhat positive</td>
</tr>
<tr>
<td>8. Scientific orientation</td>
<td>15</td>
<td>.835</td>
<td>.252</td>
<td>somewhat negative</td>
</tr>
<tr>
<td>9. Maximization of income</td>
<td>3</td>
<td>.575</td>
<td>.311</td>
<td>relatively independent</td>
</tr>
<tr>
<td>10. Risk aversion</td>
<td>7</td>
<td>.689</td>
<td>.241</td>
<td>somewhat negative</td>
</tr>
<tr>
<td>11. Independent action</td>
<td>7</td>
<td>.653</td>
<td>.212</td>
<td>somewhat negative</td>
</tr>
<tr>
<td>12. Collective action</td>
<td>9</td>
<td>.700</td>
<td>.201</td>
<td>somewhat positive</td>
</tr>
<tr>
<td>14. Risk orientation</td>
<td>6</td>
<td>.423</td>
<td>.109</td>
<td>somewhat negative</td>
</tr>
<tr>
<td>Relationship of $\bar{X}$ and $s$</td>
<td>Range of $s$</td>
<td>Concentration of intercorrelations</td>
<td>Relative magnitude of intercorrelations</td>
<td></td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-------------</td>
<td>----------------------------------</td>
<td>----------------------------------------</td>
<td></td>
</tr>
<tr>
<td>relatively independent</td>
<td>4.70 to 5.12</td>
<td>.70 to .79</td>
<td>moderately high</td>
<td></td>
</tr>
<tr>
<td>relatively independent</td>
<td>4.43 to 5.25</td>
<td>.40 to .49</td>
<td>moderate</td>
<td></td>
</tr>
<tr>
<td>relatively independent</td>
<td>4.26 to 5.01</td>
<td>.30 to .49</td>
<td>moderate</td>
<td></td>
</tr>
<tr>
<td>relatively independent</td>
<td>4.21 to 5.01</td>
<td>.30 to .55</td>
<td>moderate</td>
<td></td>
</tr>
<tr>
<td>somewhat positive</td>
<td>3.09 to 4.42</td>
<td>.30 to .49</td>
<td>moderate</td>
<td></td>
</tr>
<tr>
<td>relatively independent</td>
<td>3.54 to 5.20</td>
<td>.10 to .29</td>
<td>low</td>
<td></td>
</tr>
<tr>
<td>somewhat positive</td>
<td>3.81 to 5.23</td>
<td>.20 to .39</td>
<td>moderate</td>
<td></td>
</tr>
<tr>
<td>somewhat negative</td>
<td>2.65 to 4.42</td>
<td>.10 to .39</td>
<td>low</td>
<td></td>
</tr>
<tr>
<td>relatively independent</td>
<td>4.12 to 4.40</td>
<td>.20 to .29</td>
<td>low</td>
<td></td>
</tr>
<tr>
<td>somewhat negative</td>
<td>2.90 to 4.14</td>
<td>.10 to .29</td>
<td>low</td>
<td></td>
</tr>
<tr>
<td>somewhat negative</td>
<td>3.82 to 5.09</td>
<td>.20 to .39</td>
<td>low</td>
<td></td>
</tr>
<tr>
<td>somewhat positive</td>
<td>3.30 to 7.67</td>
<td>.00 to .29</td>
<td>low</td>
<td></td>
</tr>
<tr>
<td>relatively independent</td>
<td>4.06 to 4.72</td>
<td>.00 to .19</td>
<td>very low</td>
<td></td>
</tr>
<tr>
<td>somewhat negative</td>
<td>3.06 to 4.26</td>
<td>.00 to .19</td>
<td>very low</td>
<td></td>
</tr>
</tbody>
</table>
for additivity, one should be aware of the fact that measurement error is likely to be higher for scales with a small number of items than for scales with many items.

Policy actions

Policy behavior was divided into two types in the previous chapter -- policy actions (accustomed behavior) and policy positions (intended behavior). Policy actions have been defined as participation in past and present policy programs. The type of policy under study in this dissertation is government farm programs. The operational definitions of policy actions include the number of years of participation in the present feed grain program, and the number of years of participation in the commodity credit corn program. The number of years of participation were used rather than the extent of participation (the number of acres or bushels, etc.) to measure policy actions because the latter is a function of the size of operation whereas the former is not. Thus the number of years of participation were considered to be more unbiased and therefore a more valid measure.

These two programs belong to the general category of voluntary type programs. Thus they should be considered in the theoretical framework concerning voluntary programs outlined in the previous chapter.

Although there have been a number of government farm programs initiated during the last several decades, these two programs were the only
ones which were considered to be applicable to nearly all of the sample members. The criteria used to determine the applicability of a given program included the relevance of the program to the farming operations of the sample members and the opportunity of the sample members to participate in the program. The feed grain program was applicable to all of the farmers interviewed in the study. The program had been in effect for three years (1961-1963) at the time the study was conducted. All of the farmers except two (1.1 percent) had farmed during these three years. The two exceptions had farmed two of the three years the program had been in operation. Thus it was decided that the farmers interviewed, as a group, had sufficient opportunity to participate in the feed grain program.

Since only 2 percent of the 186 farmers did not grow corn in 1963, the commodity credit corn program was considered to be applicable to enough of the sample members to be used as a measure of farm program participation. The commodity credit corn program, however, was initiated in 1949 so that over 41 percent of the farmers had started farming after the program began. Thus certain farmers had had more opportunity to participate in this program than others. To adjust for the built-in bias of the number of years farming, the number of years in which the farmer had participated in the program was divided by the total number of years he could have participated in the program. The commodity credit corn program had been in effect 15 years when the study was conducted. A farmer who farmed during the 1949 to 1963 period potentially could have participated in this program for 15 years. Thus his years of
participation was divided by 15. A farmer who started farming in 1960 potentially could have participated in this program for four years. Consequently, the number of years he participated in the commodity credit corn program was divided by four. By this method, a farmer who farmed from 1949 to 1963 and had participated 15 years in the feed grain program received the same score (100) as the farmer who farmed from 1960 to 1963 and had participated in this program for four years.

The frequency distribution of the number of years the sample members had participated in the feed grain program appears in Table 31. The mean years of participation is 1.78 years with a standard deviation of 1.282.

<table>
<thead>
<tr>
<th>Years</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>48</td>
<td>25.8</td>
</tr>
<tr>
<td>1</td>
<td>33</td>
<td>17.7</td>
</tr>
<tr>
<td>2</td>
<td>17</td>
<td>9.2</td>
</tr>
<tr>
<td>3</td>
<td>88</td>
<td>47.3</td>
</tr>
</tbody>
</table>

\[
\bar{X} = 1.78 \\
S = 1.282
\]

The commodity credit corn program was initiated in 1949 and was in operation when the sample was interviewed. The data used for analysis were the scores computed on the basis of the ratio discussed above. The
distribution of years of participation in this program can be found in Table 32. As can be seen the mean number of years is 3.62 with a standard deviation of 4.66 years.

Table 32. Distribution of years of participation in the commodity credit corn program

<table>
<thead>
<tr>
<th>Years</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>69</td>
<td>37.1</td>
</tr>
<tr>
<td>1 - 2</td>
<td>36</td>
<td>19.4</td>
</tr>
<tr>
<td>3 - 4</td>
<td>25</td>
<td>13.5</td>
</tr>
<tr>
<td>5 - 6</td>
<td>13</td>
<td>7.0</td>
</tr>
<tr>
<td>7 - 8</td>
<td>11</td>
<td>5.8</td>
</tr>
<tr>
<td>9 - 10</td>
<td>9</td>
<td>4.8</td>
</tr>
<tr>
<td>11 and above</td>
<td>23</td>
<td>12.4</td>
</tr>
</tbody>
</table>

\[ \bar{X} = 3.62 \]
\[ S = 4.66 \]

**Policy positions**

There have been many more government farm programs proposed than enacted. Since much of the dialogue concerning farm policy is related to these proposed programs, it is important to consider these programs as well as those which are in existence. This information should provide a representative profile of reaction to the major types of programs designed to deal with the so-called "farm problem".
Two sets of measures were developed to measure the policy positions of the 186 Iowa farmers. The first set consisted of 19 proposed government farm programs. These 19 programs were placed into the six categories discussed in the previous chapter of this dissertation: the voluntary price-supply management programs, compulsory price-supply management programs, free market program, auxiliary adjustment programs, income transfer programs, and the agricultural restraint programs. These programs were designed to be general in nature and, on the whole, represent alternatives which have not been enacted. In other words, these programs were designed to determine the general position or intended behavior of each farmer with respect to a number of policy alternatives.

Each farmer was asked to respond to each of the programs on the basis of the following set of instructions:

Through the years there have been a number of government farm programs, and many other farm programs have been proposed. We have a list of government farm programs which have been proposed at various times. We want you to indicate how you would vote on each of the programs if you had to vote today.

Please respond by answering yes if you would vote for the program, and no if you would not vote for the program.

After you have voted either yes or no, we would like to have you indicate how certain you are of this choice. On Card 1 you will see numbers from 1 to 5. We wish to have you use these numbers to indicate the degree of certainty which you feel about your vote on the issue. Indicate number 1 if you are quite uncertain or have strong reservations about your choice. Indicate number 5 if you feel quite certain or have no reservations about your vote. In some cases, numbers 2, 3, or 4 may best describe how certain you are of your vote.

The responses were scored in the identical way as the value and belief scales discussed in the last section. Thus the range of responses on
each program was from 0 to 16.

The 19 programs were grouped into the six categories mentioned above. This grouping was done for three reasons. First, the programs which are grouped together are all logically related to the category in which they have been placed. The programs which are included in the voluntary program category differ in content, but are all voluntary programs in nature. Second, an examination of the data relevant to the scalability of these program sets indicated that some evidence for additivity could be found. The data relevant to each program category will be presented directly below. Third, the programs were grouped together for the sake of parsimony. This grouping reduced the number of empirical hypotheses from 160 to 74.

The data relevant to each program category will be presented below. The procedure used for the 14 value and belief scales will also be used here. Each program set will be evaluated on the basis of the three criteria for additivity. The distribution of the responses to each program will also be presented.

**Compulsory price-supply management programs**

The compulsory price-supply management programs were developed to measure the degree to which each farmer favors price-supply management programs which require that all farmers who produce commodities covered by the program participate in the program. The programs which constitute this program set include the following:

Program 1 - a compulsory program in which the government would set acreage allotments for each farm.
Program 2 - a compulsory bushel allotment program in which the government would set bushel allotments for each farm in an attempt to control surplus and raise farm prices.

Program 3 - a program in which the government would select farms that would be withdrawn from production. (These farms would be purchased by the government at a fair price.)

Data relevant to these three programs appear in Table 33. (The program numbers listed in Table 33 correspond to the numbers of the programs which appear directly above.) The computed minimum $r_{it}$ is .576. All of the field sample $r_{it}$'s exceed this value. The program means and program standard deviation appear to be relatively independent, but the few number of programs and the low variability of the means and standard deviations make such an evaluation tenuous. The range of the program standard deviations is from 4.48 to 4.61. The reliability coefficient is .577.

Table 33. Data pertaining to the items of the compulsory program scale

<table>
<thead>
<tr>
<th>Program number</th>
<th>Field sample $r_{it}$</th>
<th>Field sample $X$</th>
<th>Field sample standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.752</td>
<td>3.46</td>
<td>4.52</td>
</tr>
<tr>
<td>2</td>
<td>.806</td>
<td>3.81</td>
<td>4.61</td>
</tr>
<tr>
<td>3</td>
<td>.650</td>
<td>4.01</td>
<td>4.48</td>
</tr>
</tbody>
</table>

The intercorrelations among these three programs are .492 (one and two), .167 (one and three), and .277 (two and three). The average
intercorrelation is .312. The magnitude of these intercorrelations is low and the range of concentration of the coefficients is relatively narrow. The small number of items again make these evaluations somewhat tenuous.

The range of the total scores on these three programs is from 0 to 43 whereas the possible range is from 0 to 48. The mean score is 11.29 with a standard deviation of 10.021. Table 34 presents the distribution of scores by category established on the basis of the standard deviations. As can be seen, a majority of the farmers were not in favor of these compulsory programs.

Table 34. Distribution of sample scores on the compulsory program scale

<table>
<thead>
<tr>
<th>Score category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>43</td>
<td>23.1</td>
</tr>
<tr>
<td>1 - 11</td>
<td>66</td>
<td>35.5</td>
</tr>
<tr>
<td>12 - 22</td>
<td>49</td>
<td>26.3</td>
</tr>
<tr>
<td>23 and above</td>
<td>28</td>
<td>15.1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>186</td>
<td>100.0</td>
</tr>
</tbody>
</table>

\[ \bar{X} = 11.29 \]

\[ S = 10.021 \]

Voluntary price - supply management programs The voluntary price-supply management programs were developed to measure the degree to which each farmer favored farm programs which leave the decision of participation to the individual. The programs which make up this program set
include the following programs:

Program 1 - a voluntary program in which the government would pay farmers to permanently retire part or all of their farm land from production.

Program 2 - a voluntary program in which the government would pay farmers for retiring their whole farms from production on a year to year basis.

Program 3 - a voluntary bushel allotment in which the farmers who sign up would receive price supports for only those bushels within his allotment.

Program 4 - a voluntary program in which farmers could sell their cropland to the government for additions to national recreational areas.

Program 5 - a program in which the government would set acreage allotments for each farm. Only those who sign up will receive price supports.

Program 6 - a voluntary program in which the farmer agrees to cut back the number of his crop acres.

Table 35 contains data relevant to these six programs. The computed minimum $r$ is .410. All of the field sample $r$'s exceed the value, although the $r$'s for programs 3 and 4 do not exceed this value by very much. The program means and standard deviations appear to be somewhat negatively related. The range of the program standard deviations is from 4.36 to 5.55. The reliability coefficient is .540.

The intercorrelations among these six items can be found in
Table 35. Data pertaining to the items of the voluntary program scale

<table>
<thead>
<tr>
<th>Program number</th>
<th>Field sample r_{it}</th>
<th>Field sample $\bar{X}$</th>
<th>Field sample standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.593</td>
<td>6.11</td>
<td>5.03</td>
</tr>
<tr>
<td>2</td>
<td>.707</td>
<td>7.64</td>
<td>5.57</td>
</tr>
<tr>
<td>3</td>
<td>.440</td>
<td>8.70</td>
<td>4.74</td>
</tr>
<tr>
<td>4</td>
<td>.459</td>
<td>8.92</td>
<td>4.80</td>
</tr>
<tr>
<td>5</td>
<td>.533</td>
<td>10.49</td>
<td>4.83</td>
</tr>
<tr>
<td>6</td>
<td>.565</td>
<td>10.94</td>
<td>4.36</td>
</tr>
</tbody>
</table>

Appendix B. The range of these intercorrelations is from -.016 to .415 and the average intercorrelation is .163. The range of the majority of the intercorrelations is relatively narrow, since approximately 73 percent of the coefficients are between .10 and .29. These intercorrelation coefficients therefore have a relatively low magnitude.

The distribution of the total scores by category established on the basis of the standard deviations is presented in Table 36. The range of total scores on the voluntary programs is from 10 to 91. The possible range is from 0 to 96. The mean score is 52.81 with a standard deviation of 16.255. The distribution of total scores and the data related to each program indicate that a majority of the farmers favor voluntary programs.
Table 36. Distribution of sample scores on the voluntary program score

<table>
<thead>
<tr>
<th>Score category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>36 and below</td>
<td>29</td>
<td>15.6</td>
</tr>
<tr>
<td>37 - 53</td>
<td>60</td>
<td>32.3</td>
</tr>
<tr>
<td>54 - 70</td>
<td>70</td>
<td>37.6</td>
</tr>
<tr>
<td>71 and above</td>
<td>27</td>
<td>14.5</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>186</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

\[
\bar{x} = 52.81 \\
S = 16.255
\]

**Auxiliary adjustment programs**

The auxiliary adjustment programs were developed to measure the relative degree to which farmers favor government farm programs which are designed to aid rural people in the process of moving from farm to non-farm occupations. The programs which are included in this category of farm programs are:

- **Program 1** - a program in which the government would make payments to farm families to encourage them to relocate in urban jobs.
- **Program 2** - a government program to provide education which would help farm young people to adjust to urban life.
- **Program 3** - a government program to retrain farm people who wish to leave agriculture for non-farm employment.
- **Program 4** - a government program to improve education opportunities
in rural areas.

Program 5 - a government program which would provide information to farm young people about urban job opportunities.

Data relevant to these programs can be found in Table 37. The minimum acceptable \( r_{it} \) for these programs is .447. All of the field sample \( r_{it} \)'s exceed this value. The means and program standard deviation appear to be relatively independent. The range of the program standard deviations is from 4.00 to 4.99. The reliability coefficient was computed as .764.

Table 37. Data pertaining to the items of the auxiliary adjustment program scale

<table>
<thead>
<tr>
<th>Item number</th>
<th>Field sample ( r_{it} )</th>
<th>Field sample ( X )</th>
<th>Field sample standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.545</td>
<td>3.67</td>
<td>4.00</td>
</tr>
<tr>
<td>2</td>
<td>.841</td>
<td>8.10</td>
<td>4.88</td>
</tr>
<tr>
<td>3</td>
<td>.811</td>
<td>8.41</td>
<td>4.99</td>
</tr>
<tr>
<td>4</td>
<td>.692</td>
<td>10.73</td>
<td>4.72</td>
</tr>
<tr>
<td>5</td>
<td>.711</td>
<td>10.74</td>
<td>4.05</td>
</tr>
</tbody>
</table>

The distribution of the intercorrelations among these various programs can be found in Appendix B. The range of these intercorrelations is from .149 to .645. A majority of these correlations (60 percent) are concentrated in the .30 to .49 range. The average intercorrelation coefficient is .400. Thus the intercorrelations are concentrated in a
relatively narrow range and are of a moderate magnitude.

The range of total scores on these auxiliary adjustment programs is from 3 to 80 whereas the possible range is from 0 to 80. The mean total score is 41.65 and the standard deviation is 16.471. An examination of Table 38 and an inspection of the data indicate that a majority of the farmers favored these types of programs.

Table 38. Distribution of sample scores on the auxiliary adjustment program scale

<table>
<thead>
<tr>
<th>Score category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 and below</td>
<td>32</td>
<td>17.2</td>
</tr>
<tr>
<td>26 - 42</td>
<td>60</td>
<td>32.3</td>
</tr>
<tr>
<td>43 - 59</td>
<td>69</td>
<td>37.1</td>
</tr>
<tr>
<td>60 and above</td>
<td>25</td>
<td>13.4</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>186</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

\[ \bar{X} = 41.65 \]

\[ S = 16.471 \]

**Free market program**  
The free market program was designed to measure the relative degree to which farmers favor the elimination of all government programs so that price and supply can be determined by the market place. Only one program was included in this category. It states:

Program 1 - The government would abolish all farm support programs.

There would be no production controls and no price
support.

The distribution of the responses to this program are presented in Table 39. The mean response is 4.77 with a standard deviation of 5.250. The data in Table 39 indicate that a large majority of the farmers were not in favor of this type of program.

Table 39. Distribution of sample scores on the free market scale

<table>
<thead>
<tr>
<th>Score category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>72</td>
<td>38.7</td>
</tr>
<tr>
<td>1 - 5</td>
<td>52</td>
<td>28.0</td>
</tr>
<tr>
<td>6 - 11</td>
<td>37</td>
<td>19.9</td>
</tr>
<tr>
<td>12 - 16</td>
<td>25</td>
<td>13.4</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>186</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

\[ \bar{X} = 4.77 \]
\[ S = 5.250 \]

**Income transfer programs** The income transfer programs were developed to determine the degree to which farmers favor direct payments, special compensation, etc., to make up the difference between the market price and some fair price. There are three programs in this group which include:

Program 1 - a government program in which there are no price supports or production controls, but each farmer would receive a cash payment to raise farm income.
Program 2 - a program in which the government would support prices at parity levels with no production controls.

Program 3 - a government program in which price supports would apply only to farmers who operate small farms.

Table 40 contains data relevant to these three programs. Since the number of programs is small, these data must be interpreted as being quite tenuous. The minimum computed item-total correlation coefficient is .576 which is exceeded by all three of the field sample \( r_{it} \)'s. The program means and standard deviations appear to be positively related. The range of the standard deviations is from 3.65 to 5.11. The coefficient of reliability is .529.

Table 40. Data pertaining to the items of the income transfer program scale

<table>
<thead>
<tr>
<th>Item number</th>
<th>Field sample ( r_{it} )</th>
<th>Field sample ( \bar{X} )</th>
<th>Field sample standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.690</td>
<td>3.25</td>
<td>3.65</td>
</tr>
<tr>
<td>2</td>
<td>.695</td>
<td>5.63</td>
<td>4.42</td>
</tr>
<tr>
<td>3</td>
<td>.752</td>
<td>5.89</td>
<td>5.11</td>
</tr>
</tbody>
</table>

The intercorrelations among the items are .375 (one and two), .209 (one and three), and .234 (two and three). The average intercorrelation coefficient is .273. Thus the concentration of these intercorrelation coefficients is relatively narrow and they are of a low magnitude.

The mean score of these programs is 14.76 with a standard deviation
of 9.459. An examination of the individual programs and the distribution of scores in Table 41 indicate that a large majority of the farmers did not favor these programs. The range of total scores is 0 to 41 whereas the possible range is 0 to 48.

Table 41. Distribution of sample scores on the income transfer program scale

<table>
<thead>
<tr>
<th>Score category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 and below</td>
<td>39</td>
<td>21.0</td>
</tr>
<tr>
<td>6 - 15</td>
<td>56</td>
<td>30.1</td>
</tr>
<tr>
<td>16 - 25</td>
<td>69</td>
<td>37.1</td>
</tr>
<tr>
<td>26 and above</td>
<td>22</td>
<td>11.8</td>
</tr>
<tr>
<td>TOTAL</td>
<td>186</td>
<td>100.0</td>
</tr>
</tbody>
</table>

\[
\bar{X} = 14.76 \\
S = 9.459
\]

Agricultural restraint programs  The agricultural restraint programs were developed to determine the degree to which farmers favor programs which are designed to slow down the pace of agricultural adjustment. There are only two programs in this category. These are:

Program 1 - A government program to cut back support for Experiment Station research and Agricultural Extension in order to slow down the rapid development and acceptance of new ideas and practices in agriculture.

Program 2 - A government program to control the production of
agricultural products by taxing the use of fertilizer and large equipment.

The correlation coefficient between these two programs is .438. The range of responses to these two programs is from 0 to 32 whereas the possible range is also from 0 to 32. The mean score is 8.25 with a standard deviation of 7.456. The distribution of these scores (Table 42) and an examination of the data relevant to each program indicate that a vast majority of these farmers are opposed to these programs.

Table 42. Distribution of sample scores on the agricultural restraint program scale

<table>
<thead>
<tr>
<th>Score category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>45</td>
<td>24.2</td>
</tr>
<tr>
<td>1 - 8</td>
<td>65</td>
<td>34.9</td>
</tr>
<tr>
<td>9 - 16</td>
<td>52</td>
<td>28.0</td>
</tr>
<tr>
<td>17 and above</td>
<td>24</td>
<td>12.9</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>186</td>
<td>100.0</td>
</tr>
</tbody>
</table>

\[ \bar{x} = 8.25 \]

\[ s = 7.456 \]

It can be seen that all of these programs meet their respective minimum \( r_{it} \) 's and appear to conform to certain other criteria of additivity, even though the small number of programs make such evaluations rather tenuous and inconclusive. Thus there appears to be some justification for grouping these programs on a statistical basis. The auxiliary
adjustment programs appear to conform the best to the criteria for additivity and the voluntary and income transfer programs conform the poorest of the six categories to these criteria.

The second set of measures of policy positions consist of four types of government farm programs which were presented to the respondents for their evaluation. These four programs represented a voluntary program, a free market program, a mandatory program and a modified free market program. These programs were more specific in content than the programs discussed above. They were written by Dr. Donald Kaldor, an agricultural economist of the Department of Economics and Sociology at Iowa State University.

The following set of instructions were given to each respondent:

Card 1A contains a list of four government farm programs which have been proposed. Would you please indicate 1) which program you like most, 2) which program you like next best, and 3) which program you like the least.

The program which the respondent indicated he liked the most was scored as "4", the program he liked next best was scored as "3", and the program he liked the least was scored as "1". The remaining program was given a score of "2".

The four programs which the farmers ranked included the following:

1. A gradual transition (over a 5-year period) from present price support and production control programs to a set of policies involving (a) price supports at levels equal to market prices during the preceding 5 years, (b) an ever normal granary program implemented by commodity loans and purchase agreements.

2. A set of policies involving (a) price supports as present levels, (b) mandatory controls on the amount of farm products produced and marketed by individual farmers based on past production and marketings, (c) additional restrictions on entering farming.
3. A set of policies involving (a) price supports at present levels, (b) a voluntary land retirement program made attractive to farmers by government rental payments, (c) continuation of commodity loans and purchase agreements.

4. A return to free markets for farm products within five years and elimination of all production control and price support programs thereafter.

The distribution of the rankings of these four alternative programs can be found in Table 43. These data indicate that the present voluntary program (Program 3) was ranked the highest, the modified free market program (Program 1) the next highest, the free market program (Program 4) the third highest, and the mandatory program (Program 2) the lowest. This ranking is identical to the rank of the relevant program category sets discussed above when they are ordered on the basis of degree of favorableness.

Table 43. Summary of the ranking of farm program set 2

<table>
<thead>
<tr>
<th>Alternative program</th>
<th>Best No.</th>
<th>Percent</th>
<th>Next best No.</th>
<th>Percent</th>
<th>Third best No.</th>
<th>Percent</th>
<th>Least No.</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>22</td>
<td>11.8</td>
<td>91</td>
<td>48.9</td>
<td>60</td>
<td>32.3</td>
<td>13</td>
<td>7.0</td>
</tr>
<tr>
<td>2</td>
<td>15</td>
<td>8.1</td>
<td>26</td>
<td>14.0</td>
<td>53</td>
<td>28.5</td>
<td>92</td>
<td>49.4</td>
</tr>
<tr>
<td>3</td>
<td>106</td>
<td>57.0</td>
<td>50</td>
<td>26.9</td>
<td>27</td>
<td>14.5</td>
<td>3</td>
<td>1.6</td>
</tr>
<tr>
<td>4</td>
<td>43</td>
<td>23.1</td>
<td>19</td>
<td>10.2</td>
<td>46</td>
<td>24.7</td>
<td>78</td>
<td>42.0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>186</td>
<td>100.0</td>
<td>186</td>
<td>100.0</td>
<td>186</td>
<td>100.0</td>
<td>186</td>
<td>100.0</td>
</tr>
</tbody>
</table>

This second set of measures was also developed to determine the validity of the first set of measures. As will be seen in the findings
section, the results of the data analysis are similar for the two sets of measures with minor variations.

Method of Data Analysis

The data discussed in this dissertation were analyzed by standard IBM equipment. This work was done at the Iowa State University Statistical Laboratory.

The statistical tests which are used in the next chapter to test the various empirical hypotheses include zero-order Personian correlation coefficients, multiple regression, and multiple correlation. The first two general hypotheses will be tested by correlation analysis and the last general hypotheses will be tested by multiple regression and multiple correlation. The level of probability which will be considered as an acceptable indication of a statistically significant relationship for the correlation analysis is at the .05 level of probability. The level of probability which will be considered as statistically significant for the multiple correlation analysis and the multiple regression is the .025 level of probability.

When parametric statistics are used, one must consider the assumptions which are associated with such tests. The assumptions which must be made when using the statistical tests mentioned above generally include normality, homogeneity of variance, independence, randomness, the X's are fixed and measured without error, and the errors are uncorrelated and normally distributed. The sampling procedures followed in this study make it possible to assume independence and randomness. The remaining
assumptions are more difficult to meet.

Data which are obtained in behavioral science research does not always conform well to these types of assumptions. Measurement errors often occur and are difficult to estimate. Many phenomena of interest to social science researchers are not normally distributed. Units of measurement often vary considerably from variable to variable so that the variances may also differ greatly. The Chi square test for normality (.01 level of probability) indicates that many of the variables under study in this dissertation are normally distributed. All of the distribution of the value and belief scales but individualism and commutative justice approximate a normal distribution. In the case of policy positions and policy actions, the voluntary programs, the auxiliary adjustment programs, and the income transfer programs approximate a normal distribution. Many of the variances, however, appear to be heterogeneous.

The nature of the measurement used in this research may be responsible, at least in part, for the presence of non-normality and heterogeneity of variance. The ends of the scales can constitute important restrictions which may result in non-normality and heterogeneity of variance. Variables which have means near one of the ends of the scale may not be normally distributed because of the restrictions of the end of the scale. The ends may also influence the degree of variance of a variable which has a mean near one of the ends of a scale. This effect upon the variance may result in heterogeneity of variance when variables with more extreme means are compared with variables with less extreme means. The
number of items in a scale may also lead to heterogeneity of variance, for a scale with only three items has much less potential variance than a scale with 17 items.

Although it is recognized that all of the data do not conform to the assumptions of the statistical tests used in this study the assumptions necessary to apply these tests will be made. This decision is justified on the basis of the following reasons:

1. Many of the variables exhibit the characteristics of normality and homogeneity of variance. In addition, all observations have been drawn at random and are independent of one another.

2. The law of large numbers, the central limit theorem, and the robustness of the statistical tests are all applicable and offer evidence for the use of parametric tests. The law of large numbers states that no matter what the form of the parent population distribution (provided the variance is finite), the distribution of the sample mean becomes more and more concentrated about the population mean as the sample size increases. The central limit theorem states that the distribution of the sample mean approaches a normal distribution as the sample size increases, provided the population distribution sampled has a finite variance. These laws suggest that even though a variable may have a non-normal parent distribution, as probably some of the variables investigated in this study do, the assumption of normality can still be met when large samples are drawn. The robustness of the statistic refers to the
sensitivity of the test to deviation from normality and homoscedasticity. The F tests in the analysis of variance have been found to be relatively insensitive to non-normality and heterogeneity of variance. Ostle states:

"In general, the consequences are not serious when the assumptions made in connection with analyses of variance are not strictly satisfied. That is, moderate departures from the conditions specified by the assumptions need not alarm us. For example, minor deviations from normality and/or some degree of heteroscedasticity (lack of homogeneity of variances) will have little effect on the usual tests and the resulting inferences. In summary, the analysis of variance technique is quite robust, and thus the researcher can rely on its doing a good job under most circumstances." (70, o. 339)

Since the test for multiple regression and multiple correlation is the F test in the analysis of variance framework, the comments concerning the robustness of F may be applied to these statistics. The F test may also be used to test the significance of the correlation coefficient, but it is not within the analysis of variance design.

3. The major objective of this dissertation is to describe what relationship exists between the concepts of interest. The results of these inductive statistical tests will be interpreted more in a descriptive or qualitative manner than in a strict analytical or quantitative sense. This emphasis in the interpretation of the analysis of data is more on locating the general relationship between the variables of interest than in precise specification and/or prediction of these relationships. Thus the results of these
statistical tests will be interpreted on the basis of what evidence they provide concerning the general relationships between the variables of interest.
FINDINGS

Introduction

In the two preceding chapters, the general and sub-general hypotheses have been derived and measures designed to operationalize the concepts interrelated by these hypotheses have been described. In this chapter, the measures of the theoretical concepts will be interrelated to form empirical hypotheses which will be tested for statistical significance. Inferences concerning the validity of the general and sub-general hypotheses will be made from these statistical tests.

The general format which will be followed in this chapter will be to 1) restate each general hypothesis and the sub-general hypotheses related to it, 2) state the various empirical hypotheses (denoted as E. H.) related to the sub-general hypotheses, and 3) report the results of the relevant statistical test of the data related to each empirical hypothesis. A summary and interpretation of the results of the tests of the empirical hypotheses will be given for each of the sub-general hypothesis. The general hypotheses will be presented in the same order in which they were derived.

Statements and Tests of General, Sub-general, and Empirical Hypotheses

**General Hypothesis 1:** There will be a predictable relationship between the policy positions and policy actions of individuals and their values and beliefs.

**Sub-general Hypothesis 1A:** There will be a positive relationship
between the policy positions of farmers concerning agricultural restraint programs and their adherence to each of the values and beliefs of the traditional value-orientation configuration.

E. H. 1: There will be a positive relationship between the score on the fatalism scale and the agricultural restraint program score. The hypothesis stated in null form is: There will be no positive relationship between the score on the fatalism scale and the agricultural restraint program score. The computed correlation coefficient is .265 which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 2: There will be a positive relationship between the score on the traditionalism scale and the agricultural restraint program score. The hypothesis stated in null form is: There will be no positive relationship between the score on the traditionalism scale and the agricultural restraint program score. The computed correlation coefficient is .458 which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 3: There will be a positive relationship between the score on the farming as a way of life scale and the agricultural restraint program score. The hypothesis stated in null
form is: There will be no positive relationship between the score on the farming as a way of life scale and the agricultural restraint program score. The computed correlation coefficient is .389 which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 4: There will be a positive relationship between the score on the debt avoidance scale and the agricultural restraint program score. The hypothesis stated in null form is: There will be no positive relationship between the score on the debt avoidance scale and the agricultural restraint program score. The computed correlation coefficient is .325 which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 5: There will be a positive relationship between the score on the risk aversion scale and the agricultural restraint program score. The hypothesis stated in null form is: There will be no positive relationship between the score on the risk aversion scale and the agricultural restraint program score. The computed correlation coefficient is .161 which is significant at the .025 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 6: There will be a positive relationship between the score
on the individualism scale and the agricultural restraint program score. The hypothesis stated in null form is: There will be no positive relationship between the score on the individualism scale and the agricultural restraint program score. The computed correlation coefficient is .132 which is significant at the .05 level of probability. The null hypothesis is refuted. These data support the original proposition.

Sub-general hypothesis 1A was tested by 6 empirical hypotheses. All of these 6 empirical hypotheses were supported by the data at the designated significance level. These data are judged to indicate support for the hypothesized relationship between the traditional value-orientation dimensions and the agricultural restraint programs.

Sub-general Hypothesis 1B: There will be a negative relationship between the policy positions of farmers concerning agricultural restraint programs and their adherence to each of the values of the contemporary value configuration.

E. H. 7: There will be a negative relationship between the score on the scientific orientation scale and the agricultural restraint program score. The hypothesis stated in null form is: There will be no negative relationship between the score on the scientific orientation scale and the agricultural restraint program score. The computed correlation coefficient is -.337 which is significant at the .0005 level of probability. The null hypothesis is
refuted. These data support the original proposition.

E. H. 8: There will be a negative relationship between the score on the maximization of income scale and the agricultural restraint program score. The hypothesis stated in null form is: There will be no negative relationship between the score on the maximization of income scale and the agricultural restraint program score. The computed correlation coefficient is .060 which is not significant. The null hypothesis is not refuted. These data do not support the original proposition.

E. H. 9: There will be a negative relationship between the score on the risk orientation scale and the auxiliary adjustment program score. The hypothesis stated in null form is: There will be no negative relationship between the score on the risk orientation scale and the auxiliary adjustment program score. The computed correlation coefficient is -.100 which is not significant. The null hypothesis is not refuted. These data do not support the original proposition.

Sub-general hypothesis 1B was tested by 3 empirical hypotheses. Only one of the 3 empirical hypotheses were supported by the data at the designated significance level. Based on these data it is concluded that these empirical hypotheses, in general, do not support the hypothesized relationship between the contemporary value-orientation dimensions and the agricultural restraint programs.
Sub-general Hypothesis 10: There will be a negative relationship between the policy positions of farmers concerning auxiliary adjustment programs and their adherence to each of the values and beliefs of the traditional value-orientation configuration.

E. H. 10: There will be a negative relationship between the score on the fatalism scale and the auxiliary adjustment program score. The hypothesis stated in null form is: There will be no negative relationship between the score on the fatalism scale and the auxiliary adjustment program score. The computed correlation coefficient is .009 which is not significant. The null hypothesis is not refuted. These data do not support the original proposition.

E. H. 11: There will be a negative relationship between the score on the traditionalism scale and the auxiliary adjustment program score. The hypothesis stated in null form is: There will be no negative relationship between the score on the traditionalism scale and the auxiliary adjustment program score. The computed correlation coefficient is -.148 which is significant at the .025 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 12: There will be a negative relationship between the score on the farming as a way of life scale and the auxiliary adjustment program score. The hypothesis stated in null
form is: There will be no negative relationship between the score on the farming as a way of life scale and the auxiliary adjustment program score. The computed correlation coefficient is -.064 which is not significant. The null hypothesis is not refuted. These data do not support the original proposition.

E. H. 13: There will be a negative relationship between the score on the debt avoidance scale and the auxiliary adjustment program score. The hypothesis stated in null form is: There will be no negative relationship between the score on the debt avoidance scale and the auxiliary adjustment program score. The computed correlation coefficient is -.026 which is not significant. The null hypothesis is not refuted. These data do not support the original proposition.

E. H. 14: There will be a negative relationship between the score on the risk aversion scale and the auxiliary adjustment program score. The hypothesis stated in null form is: There will be no negative relationship between the score on the risk aversion scale and the auxiliary adjustment program score. The computed correlation coefficient is .124 which is significant at the .05 level of probability (however, the sign of the correlation coefficient is the opposite of what was predicted). The null hypothesis is not refuted. These data do not support the original proposition.
E. H. 15: There will be a negative relationship between the score on the individualism scale and the auxiliary adjustment program score. The hypothesis stated in null form is: There will be no negative relationship between the score on the individualism scale and the auxiliary adjustment program score. The computed correlation coefficient is -0.038 which is not significant. The null hypothesis is not refuted. These data do not support the original proposition.

Sub-general hypothesis IC was tested by 6 empirical hypotheses. Only one of these empirical hypotheses were supported by the data at the selected significance level. These data, therefore, are judged not to support the hypothesized relationship between the traditional value-orientation dimensions and the auxiliary adjustment programs.

Sub-general Hypothesis ID: There will be a positive relationship between the policy positions of farmers concerning auxiliary adjustment programs and their adherence to each of the values of the contemporary value configuration.

E. H. 16: There will be a positive relationship between the score on the scientific orientation scale and the auxiliary adjustment program score. The hypothesis stated in null form is: There will be no positive relationship between the score on the scientific orientation scale and the auxiliary adjustment program score. The computed correlation coefficient is 0.324 which is significant at the
.0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 17: There will be a positive relationship between the score on the maximization of income scale and the auxiliary adjustment program score. The hypothesis stated in null form is: There will be no positive relationship between the score on the maximization of income scale and the auxiliary adjustment program score. The computed correlation coefficient is .212 which is significant at the .005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 18: There will be a positive relationship between the score on the risk orientation scale and the auxiliary adjustment program score. The hypothesis stated in null form is: There will be no positive relationship between the score on the risk orientation scale and the auxiliary adjustment program score. The computed correlation coefficient is .206 which is significant at the .005 level of probability. The null hypothesis is refuted. These data support the original proposition.

All 3 of the empirical hypotheses used to test sub-general hypothesis 1D were supported at the designated significance level by the data. It is concluded that these data support the hypothesized relationship between the contemporary value-orientation dimensions and the auxiliary adjustment programs.
Sub-general Hypothesis 1E: There will be a positive relationship between the policy positions of farmers concerning income transfer programs and their adherence to each of the values and beliefs of the traditional value-orientation configuration.

E. H. 19: There will be a positive relationship between the score on the fatalism scale and the income transfer program score. The hypothesis stated in null form is: There will be no positive relationship between the score on the fatalism scale and the income transfer program score. The computed correlation coefficient is .273 which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 20: There will be a positive relationship between the score on the traditionalism scale and the income transfer program score. The hypothesis stated in null form is: There will be no positive relationship between the score on the traditionalism scale and the income transfer program score. The computed correlation coefficient is .266 which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 21: There will be a positive relationship between the score on the farming as a way of life scale and the income transfer program score. The hypothesis stated in null
form is: There will be no positive relationship between
the score on the farming as a way of life scale and the
income transfer program score. The computed correlation
coefficient is .219 which is significant at the .005
level of probability. The null hypothesis is refuted.
These data support the original proposition.

E. H. 22: There will be a positive relationship between the score
on the debt avoidance scale and the income transfer pro-
gram score. The hypothesis stated in null form is:
There will be no positive relationship between the score
on the debt avoidance scale and the income transfer pro-
gram score. The computed correlation coefficient is .329
which is significant at the .0005 level of probability.
The null hypothesis is refuted. These data support the
original proposition.

E. H. 23: There will be a positive relationship between the score
on the risk aversion scale and the income transfer pro-
gram score. The hypothesis stated in null form is:
There will be no positive relationship between the score
on the risk aversion scale and the income transfer pro-
gram score. The computed correlation coefficient is
.001 which is not significant. The null hypothesis is
not refuted. These data do not support the original
proposition.
E. H. 24: There will be a positive relationship between the score on the individualism scale and the income transfer program score. The hypothesis stated in null form is: There will be no positive relationship between the score on the individualism scale and the income transfer program score. The computed correlation coefficient is .146 which is significant at the .025 level of probability. The null hypothesis is refuted. These data support the original proposition.

Sub-general hypothesis 1E was tested by 6 empirical hypotheses. Five of these 6 empirical hypotheses were supported by the data at the designated significance level. It is concluded that Sub-general Hypothesis 1E is supported by these data.

Sub-general Hypothesis 1F: There will be a positive relationship between the policy positions of farmers concerning compulsory price-supply management and control programs and their adherence to each of the values of the collective action value configuration.

E. H. 25: There will be a positive relationship between the score on the collective action scale and the compulsory program score. The hypothesis stated in null form is: There will be no positive relationship between the score on the collective action scale and the compulsory program score. The computed correlation coefficient is .229 which is significant at the .005 level of probability. The null hypothesis is refuted. These data support the original proposition.
E. H. 26: There will be a positive relationship between the score on the collective action scale and the rank of the mandatory control program. The hypothesis stated in null form is: There will be no positive relationship between the score on the collective action scale and the rank of the mandatory control program. The computed correlation coefficient is .218 which is significant at the .005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 27: There will be a positive relationship between the score on the commutative justice scale and the compulsory program score. The hypothesis stated in null form is: There will be no positive relationship between the score on the commutative justice scale and the compulsory program score. The computed correlation coefficient is .414 which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 28: There will be a positive relationship between the score on the commutative justice scale and the rank of the mandatory control program. The hypothesis stated in null form is: There will be no positive relationship between the score on the commutative justice scale and the rank of the mandatory control program. The computed correlation coefficient is .389 which is significant at the
.0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 29: There will be a positive relationship between the score on the distributive justice scale and the compulsory program score. The hypothesis stated in null form is:
There will be no positive relationship between the score on the distributive justice scale and the compulsory program score. The computed correlation coefficient is .410 which is significant at the .0005 level of probability. The null hypotheses is refuted. These data support the original proposition.

E. H. 30: There will be a positive relationship between the score on the distributive justice scale and the rank of the mandatory control program. The hypothesis stated in null form is:
There will be no positive relationship between the score on the distributive justice scale and the rank of the mandatory control program. The computed correlation coefficient is .246 which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

Sub-general Hypothesis IF was tested by 6 empirical hypotheses. All 6 of these hypotheses were supported by the data at the selected significance level. These data are judged to support the sub-general hypothesis.

Sub-general Hypothesis IG: There will be a positive relationship between the policy positions of farmers concerning voluntary price-supply
management and control programs and their adherence to each of the values of the collective action value configuration.

E. H. 31: There will be a positive relationship between the score on the collective action scale and the voluntary program score. The hypothesis stated in null form is: There will be no positive relationship between the score on the collective action scale and the voluntary program score. The computed correlation coefficient is .190 which is significant at the .005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 32: There will be a positive relationship between the score on the collective action scale and the rank of the voluntary control program. The hypothesis stated in null form is: There will be no positive relationship between the score on the collective action scale and the rank of the voluntary control program. The computed correlation coefficient is .236 which is significant at the .005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 33: There will be a positive relationship between the score on the commutative justice scale and the voluntary program score. The hypothesis stated in null form is: There will be no positive relationship between the score on the commutative justice scale and the voluntary
program score. The computed correlation coefficient is .285 which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 34: There will be a positive relationship between the score on the commutative justice scale and the rank of the voluntary control program. The hypothesis stated in null form is: There will be no positive relationship between the score on the commutative justice scale and the rank of the voluntary control program. The computed correlation coefficient is .293 which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 35: There will be a positive relationship between the score on the distributive justice scale and the voluntary program score. The hypothesis stated in null form is: There will be no positive relationship between the score on the distributive justice scale and the voluntary program score. The computed correlation coefficient is .246 which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 36: There will be a positive relationship between the score on the distributive justice scale and the rank of the voluntary control program. The hypothesis stated in
null form is: There will be no positive relationship between the score on the distributive justice scale and the rank of the voluntary control program. The computed correlation coefficient is .168 which is significant at the .025 level of probability. The null hypothesis is refuted. These data support the original proposition.

All of the 6 empirical hypotheses used to test the relationship between collective action, commutative justice and distributive justice were supported by the data at the designated significance level. It is concluded that these data support Sub-general Hypothesis I6.

Sub-general Hypothesis I6: There will be a positive relationship between the participation by farmers in past and present farm programs and their adherence to each of the values of the collective action value configuration.

E. H. 37: There will be a positive relationship between the score on the collective action scale and the feed grain participation score. The hypothesis stated in null form is: There will be no positive relationship between the score on the collective action scale and the feed grain participation score. The computed correlation coefficient is .180 which is significant at the .025 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 38: There will be a positive relationship between the score on the commutative justice scale and the feed grain
participation score. The hypothesis stated in null form is: There will be no positive relationship between the score on the commutative justice scale and the feed grain participation score. The computed correlation coefficient is .240 which is significant at the .005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 39: There will be a positive relationship between the score on the distributive justice scale and the feed grain participation score. The hypothesis stated in null form is: There will be no positive relationship between the score on the distributive justice scale and the feed grain participation score. The computed correlation coefficient is .197 which is significant at the .005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 40: There will be a positive relationship between the score on the collective action scale and the commodity credit corn participation score. The hypothesis stated in null form is: There will be no positive relationship between the score on the collective action scale and the commodity credit corn participation score. The computed correlation coefficient is .243 which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.
E. H. 41: There will be a positive relationship between the score on the commutative justice scale and the commodity credit corn participation score. The hypothesis stated in null form is: There will be no positive relationship between the score on the commutative justice scale and the commodity credit corn participation score. The computed correlation coefficient is .148 which is significant at the .025 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 42: There will be a positive relationship between the score on the distributive justice scale and the commodity credit corn participation score. The hypothesis stated in null form is: There will be no positive relationship between the score on the distributive justice scale and the commodity credit corn participation score. The computed correlation coefficient is .101 which is not significant. The null hypothesis is not refuted. These data do not support the original proposition.

Sub-general Hypothesis IH was tested by 6 empirical hypotheses. These tests indicated that 5 of these 6 empirical hypotheses were supported at the designated significance level by the data. These data are judged, therefore, to support the hypothesized relationship between collective action, commutative justice, and distributive justice and participation in government farm programs.
Sub-general Hypothesis II: There will be a negative relationship between the policy positions of farmers concerning compulsory price-supply management and control programs and their adherence to each of the values and beliefs of the independent action value-orientation configuration.

E. H. 43: There will be a negative relationship between the score on the independent action scale and the compulsory program score. The hypothesis stated in null form is: There will be no negative relationship between the score on the independent action scale and the compulsory program score. The computed correlation coefficient is -.434 which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 44: There will be a negative relationship between the score on the individualism scale and the compulsory program score. The hypothesis stated in null form is: There will be no negative relationship between the score on the individualism scale and the compulsory program score. The computed correlation coefficient is -.187 which is significant at the .025 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 45: There will be a negative relationship between the score on the government dominance scale and the compulsory
program score. The hypothesis stated in null form is: There will be no negative relationship between the score on the government dominance scale and the compulsory program score. The computed correlation coefficient is -.323 which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 46: There will be a negative relationship between the score on the independent action scale and the rank of the mandatory control program. The hypothesis stated in null form is: There will be no negative relationship between the score on the independent action scale and the rank of the mandatory control program. The computed correlation coefficient is -.302 which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 47: There will be a negative relationship between the score on the individualism scale and the rank of the mandatory control program. The hypothesis stated in null form is: There will be no negative relationship between the score on the individualism scale and the rank of the mandatory control program. The computed correlation coefficient is -.059 which is not significant. The null hypothesis is not refuted. These data do not support the original proposition.
E. H. 48: There will be a negative relationship between the score on the government dominance scale and the rank of the mandatory control program. The hypothesis stated in null form is: There will be no negative relationship between the score on the government dominance scale and the rank of the mandatory control program. The computed correlation coefficient is -.300 which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

The hypothesized relationship between independent action, individualism, and government restrictiveness and preference for compulsory programs was tested by 6 empirical hypotheses. All but one of the 6 hypotheses were supported by the data at the designated significance level. It is concluded that these data support Sub-general Hypothesis II.

Sub-general Hypothesis II: There will be a negative relationship between the policy positions of farmers concerning voluntary price-supply management and control programs and their adherence to each of the values and beliefs of the independent action value-orientation configuration.

E. H. 49: There will be a negative relationship between the score on the independent action scale and the voluntary program score. The hypothesis stated in null form is: There will be no negative relationship between the score on the independent action scale and the voluntary program score. The computed correlation coefficient is -.095.
which is not significant. The null hypothesis is not refuted. These data do not support the original proposition.

E. H. 50: There will be a negative relationship between the score on the individualism scale and the voluntary program score. The hypothesis stated in null form is: There will be no negative relationship between the score on the individualism scale and the voluntary program score. The computed correlation coefficient is .103 which is not significant. The null hypothesis is not refuted. These data do not support the original proposition.

E. H. 51: There will be a negative relationship between the score on the government dominance scale and the voluntary program score. The hypothesis stated in null form is: There will be no negative relationship between the score on the government dominance scale and the voluntary program score. The computed correlation coefficient is -.269 which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 52: There will be a negative relationship between the score on the independent action scale and the rank of the voluntary control program. The hypothesis stated in null form is: There will be no negative relationship between the score on the independent action scale and the rank of
the voluntary control program. The computed correlation coefficient is -.165 which is significant at the .025 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 53: There will be a negative relationship between the score on the individualism scale and the rank of the voluntary control program. The hypothesis stated in null form is: There will be no negative relationship between the score on the individualism scale and the rank of the voluntary control program. The computed correlation coefficient is .089 which is not significant. The null hypothesis is not refuted. These data do not support the original proposition.

E. H. 54: There will be a negative relationship between the score on the government dominance scale and the rank of the voluntary control program. The hypothesis stated in null form is: There will be no negative relationship between the score on the government dominance scale and the rank of the voluntary control program. The computed correlation coefficient is -.260 which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

Sub-general Hypothesis 1J was tested by 6 empirical hypotheses. Three of these 6 hypotheses were supported by the data at the selected significant level. Of the 3 empirical hypotheses which were not
supported, one of the relationships was in the hypothesized direction. These data are judged to tentatively support Sub-general Hypothesis 3, but it is suggested that more investigation is necessary before more conclusive judgment can be made concerning this hypothesis. This hypothesis will be evaluated more in detail in the discussion section of this dissertation.

Sub-general Hypothesis 1K: There will be a negative relationship between participation by farmers in past and present farm programs and their adherence to each of the values and beliefs of the independent action value-orientation configuration.

E. H. 55: There will be a negative relationship between the score on the independent action scale and the feed grain participation score. The hypothesis stated in null form is: There will be no negative relationship between the score on the independent action scale and the feed grain participation score. The computed correlation coefficient is -.228 which is significant at the .005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 56: There will be a negative relationship between the score on the individualism scale and the feed grain participation score. The hypothesis stated in null form is: There will be no negative relationship between the score on the individualism scale and the feed grain participation score. The computed correlation coefficient is
-.125 which is significant at the .05 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 57: There will be a negative relationship between the score on the government dominance scale and the feed grain participation score. The hypothesis stated in null form is: There will be no negative relationship between the score on the government dominance scale and the feed grain participation score. The computed correlation coefficient is -.297 which is significant at the .005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 58: There will be a negative relationship between the score on the independent action scale and the commodity credit corn participation score. The hypothesis stated in null form is: There will be no negative relationship between the score on the independent action scale and the commodity credit corn participation score. The computed correlation coefficient is -.134 which is significant at the .05 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 59: There will be a negative relationship between the score on the individualism scale and the commodity credit corn participation score. The hypothesis stated in null form is: There will be no negative relationship between the
score on the individualism scale and the commodity credit corn participation score. The computed correlation coefficient is -.087 which is not significant. The null hypothesis is not refuted. These data do not support the original proposition.

E. H. 60: There will be a negative relationship between the score on the government dominance scale and the commodity credit corn participation score. The hypothesis stated in null form is: There will be no negative relationship between the score on the government dominance scale and the commodity credit corn participation score. The computed correlation coefficient is -.186 which is significant at the .01 level of probability. The null hypothesis is refuted. These data support the original proposition.

Five of the 6 empirical hypotheses used to test Sub-general Hypothesis 1K were supported by the data at the designated level of significance. These data, therefore, are judged to support the hypothesized relationship between past and present participation in government farm programs and independent action, rugged individualism, and government restrictiveness.

Sub-general Hypothesis II: There will be a positive relationship between the policy positions of farmers concerning the auxiliary adjustment programs and their adherence to each of the values of the collective action value configuration.

E. H. 61: There will be a positive relationship between the score
on the collective action scale and the auxiliary adjustment program score. The hypothesis stated in null form is: There will be no positive relationship between the score on the collective action scale and the auxiliary adjustment program score. The computed correlation coefficient is .274 which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 62: There will be a positive relationship between the score on the commutative justice scale and the auxiliary adjustment program score. The hypothesis stated in null form is: There will be no positive relationship between the score on the commutative justice scale and the auxiliary adjustment program score. The computed correlation coefficient is .348 which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 63: There will be a positive relationship between the score on the distributive justice scale and the auxiliary adjustment program score. The hypothesis stated in null form is: There will be no positive relationship between the score on the distributive justice scale and the auxiliary adjustment program score. The computed correlation coefficient is .413 which is significant at the .0005 level of probability. The null hypothesis is
refuted. These data support the original proposition.

The 3 empirical hypotheses used to test Sub-general Hypothesis IL were all supported by the data at the selected significance level. It is concluded that these data support Sub-general Hypothesis IL.

Sub-general Hypothesis IM: There will be a negative relationship between the policy positions of farmers concerning the free market program and their adherence to each of the values of the collective action value configuration.

E. H. 64: There will be a negative relationship between the score on the collective action scale and the free market program score. The hypothesis stated in null form is: There will be no negative relationship between the score on the collective action scale and the free market program score. The computed correlation coefficient is -0.305 which is significant at the 0.0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 65: There will be a negative relationship between the score on the collective action scale and the rank of the free market program. The hypothesis stated in null form is: There will be no negative relationship between the score on the collective action scale and the rank of the free market program. The computed correlation coefficient is -0.336 which is significant at the 0.0005 level of probability. The null hypothesis is refuted. These data
support the original proposition.

E. H. 66: There will be a negative relationship between the score on the commutative justice scale and the free market program score. The hypothesis stated in null form is:
There will be no negative relationship between the score on the commutative justice scale and the free market program score. The computed correlation coefficient is -.591 which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 67: There will be a negative relationship between the score on the commutative justice scale and the rank of the free market program. The hypothesis stated in null form is:
There will be no negative relationship between the score on the commutative justice scale and the rank of the free market program. The computed correlation coefficient is -.578 which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 68: There will be a negative relationship between the score on the distributive justice scale and the free market program score. The hypothesis stated in null form is:
There will be no negative relationship between the score on the distributive justice scale and the free market program score. The computed correlation coefficient is
.365 which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 69: There will be a negative relationship between the score on the distributive justice scale and the rank of the free market program. The hypothesis stated in null form is: There will be no negative relationship between the score on the distributive justice scale and the rank of the free market program. The computed correlation coefficient is -.347 which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

Sub-general Hypothesis 1M was tested by 6 empirical hypotheses. All 6 of these empirical hypotheses were supported by the data at the designated statistical level. These data are judged to support the hypothesized relationship between collective action, commutative justice and distributive justice and preference for the free market program.

Sub-general Hypothesis 1N: There will be a positive relationship between the policy positions of farmers concerning the free market program and their adherence to each of the values and beliefs of the independent action value-orientation configuration.

E. H. 70: There will be a positive relationship between the score on the independent action scale and the free market program score. The hypothesis stated in null form is: There will be no positive relationship between the score
on the independent action scale and the free market program score. The computed correlation coefficient is .240 which is significant at the .005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 71: There will be a positive relationship between the score on the independent action scale and the rank of the free market program. The hypothesis stated in null form is: There will be no positive relationship between the score on the independent action scale and the rank of the free market program. The computed correlation coefficient is .307 which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 72: There will be a positive relationship between the score on the individualism scale and the free market program score. The hypothesis stated in null form is: There will be no positive relationship between the score on the individualism scale and the free market program score. The computed correlation coefficient is .058 which is not significant. The null hypothesis is not refuted. These data do not support the original proposition.

E. H. 73: There will be a positive relationship between the score on the individualism scale and the rank of the free market program. The hypothesis stated in null form is:
There will be no positive relationship between the score on the individualism scale and the rank of the free market program. The computed correlation coefficient is .096 which is not significant. The null hypothesis is not refuted. These data do not support the original proposition.

E. H. 74: There will be a positive relationship between the score on the government dominance scale and the free market program score. The hypothesis stated in null form is: There will be no positive relationship between the score on the government dominance scale and the free market program score. The computed correlation coefficient is .497 which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

E. H. 75: There will be a positive relationship between the score on the government dominance scale and the rank of the free market program. The hypothesis stated in null form is: There will be no positive relationship between the score on the government dominance scale and the rank of the free market program. The computed correlation coefficient is .458 which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

Of the 6 empirical hypotheses used to test Sub-general Hypothesis IN,
4 were supported by the data at the predetermined significance level. The value individualism was involved in both of the hypotheses which were not supported. It is concluded that these data support tentatively the sub-general hypothesis.

In all, 14 sub-general hypotheses were used to test General Hypothesis 1. Ten of these sub-general hypotheses were supported, 2 were tentatively supported, and 2 were not supported. It is concluded, therefore, that the data support the proposition that predictable relationships exist between value-orientations of individuals and their policy positions and policy actions.

General Hypothesis 2: Certain values and beliefs will form value configurations or value orientation-configurations.

Sub-general Hypothesis 2A: Fatalism, traditionalism, farming as a way of life, debt avoidance, risk aversion, and individualism will form a value-orientation configuration.

E. H. 76: There will be positive relationship between the scores on the fatalism scale, the traditionalism scale, the debt avoidance scale, the risk aversion scale, and the individualism scale. The hypothesis stated in the null form is: There will be no positive relationships between the scores on the fatalism scale, the traditionalism scale, the debt avoidance scale, the risk aversion scale, and the individualism scale. The intercorrelations between the scores on these 6 scales are reported in Table 44. All interrelationships are statistically at
the .005 level or greater. The null hypothesis is refuted. It is concluded that these data support the original proposition.

Table 44. Intercorrelation coefficients between the traditional value and belief scale scores

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Fatalism</td>
<td>---</td>
<td>.422&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.240&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.338&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.203&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.250&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>2. Traditionalism</td>
<td>---</td>
<td>.526&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.424&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.265&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.278&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>3. Way of life</td>
<td>---</td>
<td>.543&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.370&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.394&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Debt avoidance</td>
<td>---</td>
<td>.246&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.291&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Conservatism</td>
<td>----</td>
<td>.246&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Individualism</td>
<td>----</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>Significant at .005 level of probability.

<sup>b</sup>Significant at .0005 level of probability.

**Sub-general Hypothesis 2B:** Scientific orientation, maximization of income, and risk orientation will form a value configuration.

**E. H. 77:** There will be positive relationships between the scores on the scientific orientation scale, the maximization of income scale, and the risk orientation scale. The hypothesis stated in the null form is: There will be no positive relationships between the scores on the scientific orientation scale, the maximization of income
scale, and the risk orientation scale. The intercorrelation between the scores on these 3 scales are reported in Table 45. Two of the intercorrelations are significant at the .005 level or greater. The relationship between scientific orientation and maximization of income is in the hypothesized direction, but is not statistically significant. The null hypothesis is not refuted. These data do not support the original proposition.

Table 45. Intercorrelation coefficients between the contemporary value and belief scale scores

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Scientific orientation</td>
<td>----</td>
<td>.070(^a)</td>
<td>.210(^b)</td>
</tr>
<tr>
<td>2. Maximization of income</td>
<td>----</td>
<td>----</td>
<td>.252(^c)</td>
</tr>
<tr>
<td>3. Risk orientation</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
</tbody>
</table>

\(^a\)Significant at .18 level of probability.

\(^b\)Significant at .005 level of probability.

\(^c\)Significant at .0005 level of probability.

Sub-general Hypothesis 2C: Collective action, commutative justice, and distributive justice will form a value configuration.

E. H. 78: There will be a positive relationship between the scores on the collective action scale, the commutative justice scale, and the distributive justice scale. The hypothesis in the null form is: There will be no positive
relationships between the scores on the collective action scale, the commutative justice scale, and the distributive justice scale. The intercorrelations between the scores on these scales are reported in Table 46. All of these intercorrelations are significant at the .0005 level. The null hypothesis is refuted. These data support the original proposition.

Table 46. Intercorrelation coefficients between the collective action value and belief scale scores

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Collective action</td>
<td>---</td>
<td>.362&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.321&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>2. Commutative justice</td>
<td></td>
<td></td>
<td>.733&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>3. Distributive justice</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>Significant at .0005 level of probability.

Sub-general Hypothesis 2D: Independent action, individualism, and government dominance will form a value-orientation configuration.

E. H. 79: There will be a positive relationship between the scores on the independent action scale, the individualism scale, and the government dominance scale. The hypothesis in the null form is: There will be no positive relationships between the scores on the independent action scale, the individualism scale, and the government dominance scale. The intercorrelations between the scores on
these 3 scales are reported in Table 47. All of these intercorrelations are significant at the .0005 level. The null hypothesis is refuted. These data support the original proposition.

Table 47. Intercorrelation coefficients between the independent action value and belief scale scores

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Independent action</td>
<td>----</td>
<td>.591(^a)</td>
<td>.565(^a)</td>
</tr>
<tr>
<td>2. Individualism</td>
<td>----</td>
<td></td>
<td>.369(^a)</td>
</tr>
<tr>
<td>3. Government restrictiveness</td>
<td>----</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\)Significant at .0005 level of probability.

Sub-general Hypotheses 2A, 2B, 2C and 2D were each tested by an empirical hypothesis. Three of these empirical hypotheses were supported at the designated statistical level. It is concluded that these data support Sub-general Hypotheses 2A, 2C and 2D, but do not support Sub-general Hypothesis 2B. Since 3 of the 4 sub-general hypotheses are supported, it is also concluded that the data support General Hypothesis 2.
Regression Analysis

Having examined the zero-order relationships between the 14 value and belief dimensions and the policy positions and actions, the discussion will now be focused upon the analysis of the multiple relationships. This analysis is related to General Hypothesis 3. It may be recalled that this hypothesis stated that there will be a relationship between policy actions and policy positions and a weighted combination of certain value configurations and value-orientation configurations.

The statistical techniques of multiple regression and multiple correlation will be used to determine the combined effect of certain values and beliefs upon a given policy position or policy action. These methods will also be used to determine whether or not the combined effect of these variables provides a usable prediction of a specified policy position or action.

An equation for the determination of the coefficient of the multiple correlation (R) has been defined by Walker and Lev (99, p. 326) as:

$$R = \sqrt{\frac{r_{y1,2...n}}{r_{y1} + r_{y1,23...n}} + \frac{r_{y2,13...n}}{r_{y2} + r_{y2,13...n}} + ... + \frac{r_{yn,n,12...n}}{r_{yn}}$$

In this equation, $r_{y1}$ represents the correlation between the first independent variable and the dependent or criterion variable. The symbol $b^{*}_{1,23...n}$ represents the partial regression coefficient which defines the amount of change in Y that can be associated with a given change in first independent variables with the remaining independent variables held fixed. In other words, it is the weight given to $X_1$ in the regression equation. The beta weights which are used in the above
equation are in standard form, i.e., they are computed by multiplying the regular beta coefficient by the ratio of the standard deviation of the criterion variable to the standard deviation of the independent variable \( b^{*} \). The product of the standard beta weight \( b^{*} \) and its respective correlation coefficient \( r_{yn} \) provide an estimate of the relative amount of "explained" variance each variable contributes (88, p. 416).

The computed \( R_{y1...n} \) can be tested for statistical significance by the following F test given by Walker and Lev (99, p. 324).

\[
F = \frac{R^{2}}{1-R^{2}} \cdot \frac{N-K-1}{K}
\]

where \( K \) = number of predictor variables

This test is derived directly from the analysis of variance tests for significance of multiple correlation (99, pp. 323-324).

**Traditional and contemporary value-orientations**

Data pertaining to Sub-general Hypotheses 3A and 3B are reported in Tables 48, 49, and 50. Each of these sub-general hypotheses and their related empirical hypotheses will be stated below. A brief discussion of the findings of the tests of these hypotheses will also be given.

**Sub-general Hypothesis 3A:** There will be a relationship between the policy positions of farmers concerning agricultural restraint programs and auxiliary adjustment programs and the weighted combination of their adherence to the traditional value-orientation configuration and
the contemporary value configuration.

E. H. 80: There will be a correlation between the agricultural restraint program score and a weighted combination of the 9 traditional and contemporary value and belief scales. This hypothesis stated in the null form is: There is no correlation between the agricultural restraint program score and a weighted combination of the 9 traditional and contemporary value and belief scales. The computed $F$ value is 12.98 with 9 and 176 degrees of freedom which is statistically significant at the .0005 level of probability. The null hypothesis is refuted.

These data support the original proposition.

The data relevant to this empirical hypothesis can be found in Table 48. The value of $R$ is .5485 which is somewhat larger than the highest zero-order correlation (.458) which is between the traditionalism scale and the auxiliary adjustment score. Interpreting these data in relation to the amount of variance explained by regression, $R^2$ represents the amount of variation of the criterion variable accounted for by these 9 scales whereas $1-R^2$ represents the amount of residual or unexplained variation. When taken in combination, these 9 scales account for 30.08 percent of the variance.

Walker and Lev (99) have suggested two interpretations which may be made with respect to the $F$ test just described. The first interpretation concerns the null hypothesis just tested, i.e., there is a significant correlation between these 9 scales and the agricultural restraint program
Table 48. Regression weights and correlations of variables used in computation of coefficient of multiple correlation^a

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>b*</th>
<th>r</th>
<th>(b*r)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individualism scale</td>
<td>-.0535</td>
<td>.132</td>
<td>-.0071</td>
</tr>
<tr>
<td>Fatalism scale</td>
<td>.1032</td>
<td>.265</td>
<td>.0273</td>
</tr>
<tr>
<td>Traditionalism scale</td>
<td>.2387</td>
<td>.458</td>
<td>.1093</td>
</tr>
<tr>
<td>Scientific orientation scale</td>
<td>-.1476</td>
<td>-.337</td>
<td>.0497</td>
</tr>
<tr>
<td>Farming as a way of life scale</td>
<td>.1708</td>
<td>.388</td>
<td>.0663</td>
</tr>
<tr>
<td>Maximization of income</td>
<td>-.0891</td>
<td>-.060</td>
<td>.0053</td>
</tr>
<tr>
<td>Risk aversion scale</td>
<td>.0999</td>
<td>.161</td>
<td>.0161</td>
</tr>
<tr>
<td>Risk orientation scale</td>
<td>-.0723</td>
<td>-.098</td>
<td>.0071</td>
</tr>
<tr>
<td>Debt avoidance scale</td>
<td>.0826</td>
<td>.325</td>
<td>.0268</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>.3008</td>
<td></td>
</tr>
</tbody>
</table>

\[ R^2 = .3008 \]
\[ R = .5485 \]

^Dependent variable is the agricultural restraint program score.

score. On the basis of the other interpretation, it can be inferred that these value and belief scales provide a useable prediction of the positions farmers take with respect to agricultural restraint programs. In other words, knowledge of a farmer's traditional and contemporary values and beliefs can enable one to make a meaningful prediction of the position the farmer will take concerning
agricultural adjustment programs.

It can be seen in Table 48 that the traditionalism scale contributes approximately one-third of the "explained" variance. Next in order of contribution are the farming as a way of life scale and the scientific orientation scale. An examination of the relative contributions of all the scales reveals that the traditional orientation values and beliefs contribute most of the "explained" variance.

E. H. 81: There will be a correlation between the auxiliary adjustment program score and a weighted combination of the nine traditional and contemporary value and belief scales. This hypothesis stated in the null form is: There is no correlation between the auxiliary adjustment program score and a weighted combination of the nine traditional and contemporary value and belief scales. The computed F value is 3.767 with 9 and 176 degrees of freedom which is significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

The data relevant to Empirical Hypothesis 81 can be found in Table 49. The value of R is .4018. This value is somewhat larger than the highest zero-order correlation (.314). When taken in combination, these nine scales account for 16.13 percent of the variance. The F value suggests that these nine value and belief scales provide a useable prediction of the positions farmers take with respect to agricultural restraint programs.
It can be seen in Table 49 that the scientific orientation scale contributes almost half of the "explained" variance of the criterion variable. Next in order of contribution are the maximization of income scale and the risk orientation scale. The contemporary values as a group contribute most of the "explained" variance of the criterion variable.

Table 49. Regression weights and correlations of variables used in computation of coefficients of multiple correlation\textsuperscript{a}

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>b\textsuperscript{*}</th>
<th>r\textsubscript{y}</th>
<th>(b\textsuperscript{*})(r\textsubscript{y})</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individualism scale</td>
<td>-.0613</td>
<td>-.038</td>
<td>.0023</td>
</tr>
<tr>
<td>Fatalism scale</td>
<td>-.0233</td>
<td>.009</td>
<td>-.0002</td>
</tr>
<tr>
<td>Traditionalism scale</td>
<td>-.0658</td>
<td>-.142</td>
<td>.0093</td>
</tr>
<tr>
<td>Scientific orientation scale</td>
<td>.2424</td>
<td>.314</td>
<td>.0761</td>
</tr>
<tr>
<td>Farming as a way of life scale</td>
<td>-.0067</td>
<td>-.064</td>
<td>.0004</td>
</tr>
<tr>
<td>Maximization of income</td>
<td>.1526</td>
<td>.211</td>
<td>.0322</td>
</tr>
<tr>
<td>Risk aversion scale</td>
<td>.1229</td>
<td>.124</td>
<td>.0152</td>
</tr>
<tr>
<td>Risk orientation scale</td>
<td>.1284</td>
<td>.206</td>
<td>.0265</td>
</tr>
<tr>
<td>Debt avoidance scale</td>
<td>.0199</td>
<td>-.025</td>
<td>-.0005</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>.1613</td>
</tr>
</tbody>
</table>

R\textsuperscript{2} = .1613  
R = .4018

\textsuperscript{a}Dependent variable is the auxiliary adjustment program score.
Sub-general Hypothesis 3A was tested by 2 empirical hypotheses. Both of these empirical hypotheses were supported by the data at the selected significance level. It is concluded that these data support the sub-general hypothesis.

Sub-general Hypothesis 3B: There will be a relationship between the policy positions of farmers concerning income transfer programs and a weighted combination of their adherence to the values and beliefs of the traditional value-orientation configuration.

E. H. 82: There will be a correlation between the income transfer program score and a weighted combination of the six traditional values and beliefs. This hypothesis stated in the null form is: There is no correlation between the income transfer program score and a weighted combination of the six traditional values and beliefs. The computed F value is 5.763 with 6 and 179 degrees of freedom which is significant and the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

The data relevant to Empirical Hypothesis 82 can be found in Table 50. The computed value of R is .4025, a value somewhat larger than the highest zero-order correlation (.329). When taken in combination, these six scales account for 16.21 percent of the variance. The F test suggests that these six value and belief scales provide a useable prediction of the positions farmers take with respect to income transfer programs.
Table 50. Regression weights and correlations of variables used in computation of coefficients of multiple correlation

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>$b^*$</th>
<th>$r_y$</th>
<th>$(b^*) (r_y)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individualism scale</td>
<td>.0268</td>
<td>.146</td>
<td>.0039</td>
</tr>
<tr>
<td>Fatalism scale</td>
<td>.1599</td>
<td>.273</td>
<td>.0437</td>
</tr>
<tr>
<td>Traditionalism scale</td>
<td>.1098</td>
<td>.266</td>
<td>.0292</td>
</tr>
<tr>
<td>Farming as a way of life</td>
<td>.0363</td>
<td>.219</td>
<td>.0079</td>
</tr>
<tr>
<td>Risk aversion scale</td>
<td>-.1394</td>
<td>-.001</td>
<td>.0001</td>
</tr>
<tr>
<td>Debt avoidance scale</td>
<td>.2349</td>
<td>.329</td>
<td>.0773</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>.1621</td>
</tr>
</tbody>
</table>

$R^2 = .1621$

$R = .4025$

$^a$Dependent variable is the income transfer program score.

It can be seen in Table 50 that the debt avoidance scale contributes almost half of the "explained" variances of the criterion variable. Next in order of contribution are the fatalism scale and the traditionalism scale.

Sub-general Hypothesis 3B was tested by one empirical hypothesis. This empirical hypothesis was supported by the data. On the basis of these data the sub-general hypothesis is judged to be supported.
Independent action and collective action value-orientation

Data pertaining to Sub-general Hypotheses 3C, 3D, and 3E are reported in Tables 51 through 59. Each of these sub-general hypotheses and their related empirical hypotheses will be stated below.

**Sub-general Hypothesis 3C**: There will be a relationship between the policy positions of farmers concerning compulsory price-supply management and control programs, voluntary price-supply management and control programs, and the free market program and a weighted combination of their adherence to the collective action value configuration and the independent action value-orientation configuration.

**E. H. 83**: There will be a correlation between the compulsory price-supply management and control program score and a weighted combination of the six independent action and collective action values and beliefs. This hypothesis stated in the null form is: There is no correlation between the compulsory price-supply management and control program score and a weighted combination of the six independent action and collective action values and beliefs. The computed F value is 10.787 with 6 and 179 degrees of freedom which is significant at the .0005 level of probability. The null hypothesis is refuted.

These data support the original proposition.

The data related to Empirical Hypothesis 83 is presented in Table 51. The computed value of R is .5132. These six scales, when taken in combination, account for 26.34 percent of the variance. The significance
Table 51. Regression weights and correlations of variables used in computation of coefficients of multiple correlation

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>$b^*$</th>
<th>$r_y$</th>
<th>$(b^*)(r_y)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collective action scale</td>
<td>.0249</td>
<td>.229</td>
<td>.0057</td>
</tr>
<tr>
<td>Independent action scale</td>
<td>-.2887</td>
<td>-.434</td>
<td>.1253</td>
</tr>
<tr>
<td>Individualism scale</td>
<td>.0184</td>
<td>-.187</td>
<td>-.0034</td>
</tr>
<tr>
<td>Commutative justice scale</td>
<td>.1101</td>
<td>.414</td>
<td>.0456</td>
</tr>
<tr>
<td>Distributive justice scale</td>
<td>.1961</td>
<td>.410</td>
<td>.0804</td>
</tr>
<tr>
<td>Government dominance scale</td>
<td>-.0302</td>
<td>-.323</td>
<td>.0098</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>.2634</td>
</tr>
</tbody>
</table>

$R^2 = .2634$

$R = .5132$

$^a$Dependent variable is the compulsory price-supply management and control program score.

test for the multiple correlation suggests that the six value and belief scales provide a useable prediction of the positions farmers take with respect to compulsory price-supply management and control programs.

The independent action scale, the commutative justice scale, and the distributive justice scale contribute almost all of the "explained" variance (Table 51).

E. H. 84: There will be a correlation between the rank of the compulsory program alternative and a weighted combination of the six independent action and collective action
value and belief scales. This hypothesis stated in the null form is: There is no correlation between the rank of the compulsory program alternative and a weighted combination of the six independent action and collective action value and belief scales. The computed F value is 7.457 with 9 and 176 degrees of freedom which is statistically significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

Table 52 contains the data related to Empirical Hypothesis 84. The value of $R^2$ is .1982. Thus the multiple correlation between the rank of the compulsory program alternative and these six value and belief scales (program set 2) is not as large as the multiple correlation coefficient obtained between these scales and the compulsory program score (program set 1). The value of $R$ is somewhat larger than the highest zero-order correlation (.389). The F test suggests that these six value and belief scales provide a useable prediction of the positions farmers take with respect to the compulsory program alternative.

As can be seen in Table 52, the independent action scale and the commutative justice scale contribute most of the "explained" variance.

E. H. 85: There will be a correlation between the voluntary price-supply management and control score and a weighted combination of the six independent action and collective action value and belief scales. This hypothesis stated in the null form is: There is no correlation between the
Table 52. Regression weights and correlations of variables used in computation of coefficients of multiple correlation

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>b*</th>
<th>r_y</th>
<th>(b*)(r_y)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collective action scale</td>
<td>.0927</td>
<td>.218</td>
<td>.0202</td>
</tr>
<tr>
<td>Independent action scale</td>
<td>-.2170</td>
<td>-.302</td>
<td>.0655</td>
</tr>
<tr>
<td>Individualism scale</td>
<td>.0142</td>
<td>-.059</td>
<td>-.0008</td>
</tr>
<tr>
<td>Commutative justice scale</td>
<td>.3152</td>
<td>.389</td>
<td>.1226</td>
</tr>
<tr>
<td>Distributive justice scale</td>
<td>-.1204</td>
<td>.246</td>
<td>-.0296</td>
</tr>
<tr>
<td>Government dominance scale</td>
<td>-.0676</td>
<td>-.300</td>
<td>.0203</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>.1982</strong></td>
</tr>
</tbody>
</table>

$R^2 = .1982$

$R = .4455$

*Dependent variable is rank of compulsory program alternative.

 voluntary price-supply management and control score and a weighted combination of the six independent action and collective action value and belief scales. The computed F value is 5.810 with 3 and 179 degrees of freedom which is statistically significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

The data relevant to Empirical Hypothesis 85 can be found in Table 53. The computed value of R is .4020 while the highest zero-order
Table 53. Regression weights and correlations of variables used in computation of coefficients of multiple correlation

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>b*</th>
<th>r_y</th>
<th>(b*)(r_y)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collective action scale</td>
<td>.1663</td>
<td>.189</td>
<td>.0314</td>
</tr>
<tr>
<td>Independent action scale</td>
<td>.0350</td>
<td>-.095</td>
<td>-.0033</td>
</tr>
<tr>
<td>Individualism scale</td>
<td>.2450</td>
<td>.103</td>
<td>.0252</td>
</tr>
<tr>
<td>Commutative justice scale</td>
<td>.0105</td>
<td>.285</td>
<td>.0030</td>
</tr>
<tr>
<td>Distributive justice scale</td>
<td>.1049</td>
<td>.246</td>
<td>.0258</td>
</tr>
<tr>
<td>Government dominance scale</td>
<td>-.2952</td>
<td>-.269</td>
<td>.0794</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>.1615</strong></td>
</tr>
</tbody>
</table>

\[ R^2 = .1615 \]

\[ R = .4020 \]

*aDependent variable is voluntary price-supply management and control program score.

correlation (between the commutative justice scale and the criterion variable) is \(.285\). These six scales when taken in combination, "explain" 16.15 percent of the variance associated with the criterion variable. The test of significance of the multiple correlation coefficient suggests that these scales provide a usable prediction of the positions farmers take with respect to voluntary price-supply management and control programs.

It can be seen in Table 53 that the government dominance scale contributes almost half of the "explained" variance. Next in order of
contribution are the collective action scale, the distributive justice scale, and the individualism scale.

E. H. 86: There will be a correlation between the rank of the voluntary program alternative and a weighted combination of the six independent action and collective action value and belief scales. This hypothesis stated in the null form is: There is no correlation between the rank of the voluntary program alternative and a weighted combination of the six independent action and collective action value and belief scales. The computed F value is 4.227 with 6 and 179 degrees of freedom which is statistically significant at the .001 level of probability. The null hypothesis is refuted. These data support the original proposition.

Table 54 contains data relevant to Empirical Hypothesis 86. The value of R is .3525 which is somewhat larger than the largest zero-order correlation coefficient (.293). Thus the R obtained from the correlation between these six scales and the rank of the voluntary program alternative (program set 2) is slightly smaller than the R obtained from these scales and the voluntary price-supply management and control program score (program set 1). The value of $R^2$ is .1241, i.e., these six scales, taken in combination, "explain" 12.41 percent of the variance. The F test suggests that these six value and belief scales furnish a useable prediction of the positions taken by farmers with respect to the voluntary program alternative.
As can be seen in Table 54, the commutative justice scale contributes nearly two-thirds of the "explained" variance. Next in order of contribution are the collective action scale and the government dominance scale.

Table 54. Regression weights and correlations of variables used in computation of coefficients of multiple correlation

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>b*</th>
<th>( r_y )</th>
<th>(b*)(r)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collective action scale</td>
<td>.1638</td>
<td>.236</td>
<td>.0387</td>
</tr>
<tr>
<td>Independent action scale</td>
<td>.0494</td>
<td>-.165</td>
<td>-.0082</td>
</tr>
<tr>
<td>Individualism scale</td>
<td>.0813</td>
<td>-.088</td>
<td>-.0072</td>
</tr>
<tr>
<td>Commutative justice scale</td>
<td>.2685</td>
<td>.293</td>
<td>.0786</td>
</tr>
<tr>
<td>Distributive justice scale</td>
<td>-.0890</td>
<td>.168</td>
<td>-.0150</td>
</tr>
<tr>
<td>Government dominance scale</td>
<td>-.1431</td>
<td>-.260</td>
<td>.0372</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>.1241</td>
</tr>
</tbody>
</table>

\[ R^2 = .1241 \]

\[ R = .3525 \]

\*Dependent variable is rank of the voluntary program alternative.

E. H. 87: There will be a correlation between the free market program score and a weighted combination of the six independent action and collective action value and belief scales. This hypothesis stated in the null form is: There is no correlation between the free market
program score and a weighted combination of the six independent action and collective action value and belief scales. The computed F value is 21.879 with 6 and 179 degrees of freedom which is statistically significant at the .0005 level of probability. The null hypothesis is refuted. These data support the original proposition.

Data relevant to this hypothesis can be found in Table 55. The computed value of the multiple correlation coefficient is .6504 which is somewhat larger than the highest zero-order correlation (-.591). The value of $R^2$ is .4229. Using the second interpretation of the test of significance of the multiple correlation coefficient suggested by Walker and Lev (99), these six value and belief scales provide a useable prediction of the positions taken by farmers with respect to the free market program.

It can be seen in Table 55 that a majority of the "explained" variance is contributed by the commutative justice scale. Nearly all of the "explained" variance is contributed by the commutative justice scale and the government dominance scale.

E. H. 88: There will be a correlation between the rank of the free market program alternative and a weighted combination of the six independent action and collective action value and belief scales. This hypothesis stated in the null form is: There is no correlation between the rank of the free market program alternative and a weighted combination of the six independent action and collective
Table 55. Regression weights and correlations of variables used in computation of coefficients of multiple correlation

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>( b^* )</th>
<th>( r_y )</th>
<th>((b^*)(r_y))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collective action scale</td>
<td>-.1531</td>
<td>-.305</td>
<td>.0467</td>
</tr>
<tr>
<td>Independent action scale</td>
<td>-.1579</td>
<td>.240</td>
<td>-.0379</td>
</tr>
<tr>
<td>Individualism scale</td>
<td>-.0458</td>
<td>.058</td>
<td>-.0027</td>
</tr>
<tr>
<td>Commutative justice scale</td>
<td>-.5023</td>
<td>-.591</td>
<td>.2969</td>
</tr>
<tr>
<td>Distributive justice scale</td>
<td>.0940</td>
<td>-.365</td>
<td>-.0343</td>
</tr>
<tr>
<td>Government dominance scale</td>
<td>.3103</td>
<td>.497</td>
<td>.1542</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>.4229</strong></td>
</tr>
</tbody>
</table>

\[ R^2 = .4229 \]
\[ R = .6504 \]

*aDependent variable is the free market program score.

action value and belief scales. The computed F value is 18.852 with 6 and 179 degrees of freedom which is statistically significant at the .0005 level of probability.

The null hypothesis is refuted. These data support the original proposition.

Table 56 contains the data which are relevant to this empirical hypothesis. The computed value of R is .6223 and the value of \( R^2 \) is .3872. Thus, the multiple correlation coefficient between the six value and belief scales and the rank of the free market program alternative (program set 2) is smaller in magnitude than the R between these scales
Table 56. Regression weights and correlations of variables used in computation of coefficients of multiple correlation

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>b*</th>
<th>r_y</th>
<th>(b*)(r_y)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collective action scale</td>
<td>-.1719</td>
<td>-.336</td>
<td>.0578</td>
</tr>
<tr>
<td>Independent action scale</td>
<td>-.0122</td>
<td>.307</td>
<td>-.0037</td>
</tr>
<tr>
<td>Individualism scale</td>
<td>-.0552</td>
<td>.096</td>
<td>-.0053</td>
</tr>
<tr>
<td>Commutative justice scale</td>
<td>-.5279</td>
<td>-.578</td>
<td>.3051</td>
</tr>
<tr>
<td>Distributive justice scale</td>
<td>.1536</td>
<td>-.347</td>
<td>-.0533</td>
</tr>
<tr>
<td>Government dominance scale</td>
<td>.1904</td>
<td>.455</td>
<td>.0866</td>
</tr>
</tbody>
</table>

TOTAL

\[ R^2 = .3872 \]

\[ R = .6223 \]

*Dependent variable is rank of the free market program alternative.

and the free market program score (program set 1). The multiple R of .6223 is somewhat larger than the highest zero-order correlation coefficient (-.578). The significance test of the multiple correlation coefficient suggests that these six value and belief scales furnish a useable prediction of the positions farmers take with respect to the free market program alternative.

An examination of Table 56 reveals that the commutative justice scale contributes most of the "explained" variance. Next in order of contribution are the government dominance scale and the collective action scale.
Sub-general Hypothesis 3C was tested by 6 empirical hypotheses. All of these empirical hypotheses were supported by the data at the selected statistical level of significance. Therefore, these data are judged to indicate support for Sub-general Hypothesis 3C.

Sub-general Hypothesis 3D: There will be a relationship between the policy positions of farmers concerning auxiliary adjustment programs and a weighted combination of the values of the collective action value configuration.

E. H. 89: There will be a correlation between the auxiliary adjustment program score and a weighted combination of the collective action value scales. This hypothesis stated in the null form is: There is no correlation between the auxiliary adjustment program score and a weighted combination of the collective action value scales. The computed F value is 14.643 with 3 and 182 degrees of freedom which is statistically significant at the .0005 level of probability. The null hypothesis is refuted.

These data support the original proposition.

The data related to Empirical Hypothesis 89 are presented in Table 57. The computed value of R is .4409 and the value of $R^2$ is .1944. The multiple correlation coefficient is slightly larger than the largest zero-order correlation coefficient (.413). The F test suggests that these three value and belief scales provide a useable prediction of the positions farmers will take regarding auxiliary adjustment programs.
Table 57. Regression weights and correlations of variables used in computation of coefficients of multiple correlation^a

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>b*</th>
<th>r_y</th>
<th>(b*)(r_y)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collective action scale</td>
<td>.1496</td>
<td>.274</td>
<td>.0410</td>
</tr>
<tr>
<td>Commutative justice scale</td>
<td>.0555</td>
<td>.348</td>
<td>.0193</td>
</tr>
<tr>
<td>Distributive justice scale</td>
<td>.3246</td>
<td>.413</td>
<td>.1341</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>.1944</td>
</tr>
</tbody>
</table>

\[ R^2 = .1944 \]
\[ R = .4409 \]

^aDependent variable is auxiliary adjustment program score.

It can be seen in Table 57 that the distributive justice scale contributes most of the "explained" variance. Next in order are the collective action scale and the commutative justice scale.

Sub-general Hypothesis 3D was tested by one empirical hypothesis. The data supported this hypothesis at the predetermined significance level. These data, therefore, are judged to support Sub-general Hypothesis 3D.

Sub-general Hypothesis 3E: There will be a relationship between the participation of farmers in past and present farm programs and a weighted combination of their adherence to the collective action value configuration and the independent action value-orientation configuration.
E. H. 90: There will be a correlation between the feed grain participation score and a weighted combination of the six independent action and collective action value and belief scales. This hypothesis stated in the null form is:

There is no correlation between the feed grain participation score and a weighted combination of the six independent action and collective action value and belief scales. The computed $F$ value is 3.747 with 6 and 179 degrees of freedom which is statistically significant at the .005 level of probability. The null hypothesis is refuted. These data support the original proposition.

Table 58 presents data relevant to Empirical Hypothesis 90. The computed value of $R$ is .3329 which is slightly larger than the highest zero-order correlation (-.297 which is between government dominance and the criterion variable). The value of $R^2$ is .1105. The $F$ test suggests that these six values and beliefs furnish a useable prediction of farmers' participation in the feed grain program.

The government dominance scale contributes over half of the "explained" variance. The collective action scale, the distributive justice scale, and the independent action scale are next in order of contribution.

E. H. 91: There will be a correlation between the commodity credit corn program score and a weighted combination of the six independent action and collective action value and belief scales. This hypothesis stated in the null form is:

There is no correlation between the commodity credit
Table 58. Regression weights and correlations of variables used in computation of coefficients of multiple correlation

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>b*</th>
<th>r_y</th>
<th>(b*)(r_y)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collective action scale</td>
<td>.0969</td>
<td>.180</td>
<td>.0174</td>
</tr>
<tr>
<td>Independent action scale</td>
<td>-.0472</td>
<td>-.229</td>
<td>.0108</td>
</tr>
<tr>
<td>Individualism scale</td>
<td>.0019</td>
<td>-.125</td>
<td>-.0002</td>
</tr>
<tr>
<td>Commutative justice scale</td>
<td>-.0028</td>
<td>.240</td>
<td>-.0007</td>
</tr>
<tr>
<td>Distributive justice scale</td>
<td>.0692</td>
<td>.197</td>
<td>.0136</td>
</tr>
<tr>
<td>Government dominance scale</td>
<td>-.2345</td>
<td>-.297</td>
<td>.0696</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>.1105</strong></td>
</tr>
</tbody>
</table>

R = .3329

aDependent variable is feed grain participation score.

corn program score and a weighted combination of the six independent action and collective action value and belief scales. The computed F value is 2.7120 with 6 and 179 degrees of freedom which is statistically significant at the .025 level of probability. The null hypothesis is refuted. These data support the original proposition.

Data relevant to this empirical hypothesis are presented in Table 59. The value of R is .2875 and the value of R^2 is .0825. The value of R is slightly higher than the largest zero-order correlation coefficient (.243).
Table 59. Regression weights and correlations of variables used in computation of coefficients of multiple correlation

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>b*</th>
<th>r_y</th>
<th>(b*)(r_y)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collective action scale</td>
<td>.2316</td>
<td>.243</td>
<td>.0563</td>
</tr>
<tr>
<td>Independent action scaleq</td>
<td>.0352</td>
<td>-.126</td>
<td>-.0044</td>
</tr>
<tr>
<td>Individualism scale</td>
<td>.0299</td>
<td>-.088</td>
<td>-.0026</td>
</tr>
<tr>
<td>Commutative justice scale</td>
<td>-.0340</td>
<td>.148</td>
<td>-.0050</td>
</tr>
<tr>
<td>Distributive justice scale</td>
<td>-.0413</td>
<td>.101</td>
<td>-.0042</td>
</tr>
<tr>
<td>Government dominance scale</td>
<td>-.2069</td>
<td>-.205</td>
<td>.0424</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>.0825</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

R^2 = .0825
R = .2875

*Dependent variable is commodity credit corn participation score.

The significance test of R suggests these six value and belief scales furnish a useable prediction of the farmers' participation in the commodity credit corn program.

As can be seen in Table 59, the collective action scale and the government dominance scale contribute all of the "explained" variance. The contribution of the remaining scales is negative and negligible.

Sub-general Hypothesis 3E was tested by two empirical hypotheses. Both of these hypotheses were supported by the data at the designated level of probability. Sub-general Hypothesis 3E, therefore, is judged to be supported by these data.
In all, 5 sub-general hypotheses were used to test General Hypothesis 3. All of these sub-general hypotheses were supported. It is concluded that the data supported the proposition that a relationship exists between value-orientation configurations and value configurations and policy positions and policy actions.
INTRODUCTION

To complete this research endeavor, a general discussion and summary of the study will be given and certain implications for future research will be pointed out. Selected data which were not included in the preceding chapter will also be presented.

Effect of Situational Variables

It was proposed in the theory chapter of this dissertation that certain situational variables may influence the relationship between value-orientations and behavior. Some selected situational variables will now be examined to determine if they have any impact upon the relationship between certain of the value-orientation configurations and policy positions or actions analyzed in the preceding chapter.

The study upon which this dissertation is based was not directly concerned with situational variables. Therefore, the data available for analysis do not include precise measures of situational variables. There are, however, some variables available which may be considered as situational variables. In light of the fact that the literature suggests that situational variables should be considered when studying the relationships between value-orientations and behavior, it was decided that a special section of this dissertation be devoted to reporting the analysis of these "secondary" situational variables.

In a broad context, the situation is a social psychological concept
which includes most of those external forces which impinge upon the actors decision or behavior at a particular point in time. The importance of the situation was early recognized by W. I. Thomas (93). Thomas viewed the social situation as consisting of three interrelated elements: the objective conditions, which include the socially enforced rules of behavior; the pre-existing attitudes and values of the individual and the group; and the definition of the situation by the actors themselves (influenced by the group). Thomas believed that behavior could only be understood when it was studied within its entire context -- the situation inclusive of these three elements.

The elements in Thomas' definition of the situation are the objective conditions which may place restraints upon the behavior of an individual during the course of social action. The other two elements can, for the most part, be subsumed under the concepts of values and beliefs (95). Although Thomas placed these objective conditions in an institutional and normative setting, they can be treated in a more micro fashion. Newcomb (67) and Jacob and Flink (45) have broadened the definition of these objective conditions to environmental and non-social external restraints.

There is little doubt that different individuals face different social and physical constraints when they enter into social action. One man may have many more "degrees of freedom" to behave as he wishes or as his value-orientations suggest than another. These constraints would be expected to influence the magnitude of the relationship between value-orientations and behavior. If these constraints were identified and
controlled, the relationship between values, beliefs, and behavior should be more explicit. The interaction between the situation and values and beliefs, if specified, should achieve what Thomas expected -- a more complete understanding of behavior.

The author is not aware of any research studies which have examined the impact of situational variables upon the relationship between value-orientations and behavior. There are, however, several studies extant which have examined the influence of situational variables upon the relationship between attitudes and overt behavior (24, 25). DeFriese and Ford (25), for example, have demonstrated that when measures of the influence of mechanisms of social constraint are used in conjunction with conventional measures of attitude, a greater reduction in the errors in the prediction of overt behavior occurs than when either attitude or social constraint are considered alone. They contend, therefore, that the accuracy with which overt behavior can be predicted from measures of verbal attitudes can be increased by the addition of a systematic categorization of the influence of certain mechanisms of social constraint. Most of the other studies which have been concerned with situational variables have considered certain reference groups to be the social constraint mechanism which intervene and mediate the relation between attitude and overt behavior (24, 25).

All of the hypothesized relationships between value-orientation and policy behavior discussed in the last two chapters were examined with respect to a limited number of variables which were considered as possible constraints which might "disturb" the hypothesized relationship
between these specific value-orientations and policy behavior. Since it was difficult to predict the exact nature of the influence of these selected variables upon the hypothesized relationships, the analysis was done on a "nondirectional" and exploratory basis. It may be pointed out that even with adequate data, it is often difficult to predict a priori exactly how a given situational variable will influence the relationship between value-orientations and behavior. Those studies (24, 25) which have been concerned with situational variables or "social constraints" have determined the nature of the influence of these variables from mainly an empirical standpoint. The researchers stated a general proposition concerning the expected effect of situational variables and then proceeded to determine the exact nature of this influence through empirical examination.

The analysis of these variables indicated that only a few of the variables appeared to have a significant influence upon certain of the hypothesized relationships. Of the several statistical techniques used to analyze the data, the one which provided the most meaningful results was a correlational technique. The sample was divided into two equal random groups. One part of the sample (93 observations) was used to determine the general nature of the relationship between these situational variables and the hypothesized relationships. This was accomplished by plotting each situational variable against the absolute value of the deviations from regression \( (Y - \hat{Y}) \) of the specific policy position or action on the value-orientation configurations of interest. Each of these scatter diagrams were examined to determine the general pattern of
relationships between these two variables. This inspection revealed that only a few of the situational variables were related to certain of the deviations from regression, and these relationships appeared to be relatively linear. These remaining variables were then subjected to correlational analysis to determine if these situational variables and deviations from regression were statistically related. The remaining 93 observations were used in this analysis.

A significant correlation between a situational variable and the magnitude of the deviations from regression of a policy position or action on the value-orientation configurations is considered to indicate that the situational variable has an effect on the hypothesized relationship. A more precise explanation of the interpretation of this correlation will be given below when the specific variables are discussed.

A discussion of the relationships which were found to be significant are presented below. For each test of significance of the correlation coefficient (r), a null hypothesis is formulated. The significance tests used are two-sided, and the .05 level of probability is taken as an acceptable indication of a statistically significant relationship.

Null Hypothesis: There is no correlation between the number of crop acres farmed and the magnitude of the deviations from regression of the commodity credit corn participation score on the independent action and collective action value and belief scales.

The computed correlation coefficient (r) was found to be .305 with 91 degrees of freedom. Since a correlation coefficient of .266 is
required for significance at the .01 level of probability, the null hypothesis is refuted.

The regression equation referred to in the above null hypothesis was discussed in the last section of the preceding chapter. Data pertinent to this regression equation can also be found in the preceding chapter (Table 59). The results of the test of this null hypothesis indicate that the regression equation predicts the degree of participation of farmers in the commodity credit corn program from their independent and collective action value-orientation configurations better for those farmers who farm a small number of crop acres, i.e., relative to the sample average, than for those farmers who farm a large number of crop acres. In other words, the fewer crop acres a farmer operates, the more likely his participation in the commodity credit corn program will be consistent with his independent and collective action value-orientation configurations.

Further examination of the data indicates that the largest deviation from regressions are, for the most part, positive, i.e., the actual commodity credit corn program participation scores considerably exceed the predicted participation scores. A majority of the observations associated with these higher errors of prediction are the large farmers. These data suggest that many of the larger farmers appear to be participating extensively in the commodity credit program even if they adhere to the independent action values and beliefs. These crop intensive farmers may consider that this farm program provides them with higher returns for their outputs than they can receive elsewhere. More data
is needed, however, before more exact reasons why crop acres influence the relationship between participation in the commodity credit corn program and these values and beliefs can be determined.

Null Hypothesis: There is no correlation between the number of acres planted in soybeans and the magnitude of the deviations from regression of the commodity credit corn program participation score or the independent and collective action value and belief scales.

The computed correlation coefficient \((r)\) was found to be .370 with 91 degrees of freedom. Since a correlation coefficient of .336 is required for significance at the .001 level of probability, the null hypothesis is refuted.

The discussion and data relevant to this regression equation can be found in the preceding chapter and in Table 59 of the preceding chapter. The results of the test of this null hypothesis indicate that the regression equation more accurately predicts the degree of participation of farmers in the commodity credit corn program from their independent and collective action value-orientation configurations for those farmers who plant a small number of acres in soybeans (relative to the sample average) than for those farmers who plant a large number of acres in soybeans. In other words, the larger the number of acres a farmer plants in soybeans, the more likely his participation in the commodity credit corn program will be inconsistent with his independent and collective action value-orientation configurations.

Additional data analysis indicates that those farmers who exhibit
the largest deviation from their predicted participation scores are, in general, participating in the commodity credit corn program considerably more than expected on the basis of their values and beliefs. A majority of these farmers also planted 25 acres or more of soybeans in 1963.

These data suggest that many of the large (relative to the sample average) soybean farmers are participating extensively in the commodity credit corn program even if they adhere to the independent action value-orientation configuration. The number of acres planted in soybeans can be considered as an index of the degree to which a farming operation is crop intensive. Certain income considerations on the part of many of these large crop intensive farmers, therefore, may be responsible for this deviance from expected behavior. Considering the fact that there is a relatively high correlation (.711) between crop acres and soybean acres, this pattern of behavior and the reasons for this pattern may be quite similar to that discussed above concerning the first null hypothesis. As in the first case, more data is needed before this relationship between 1) soybean acres and 2) the participation in the commodity credit corn program and values and beliefs can be fully understood.

Null Hypothesis: There is no correlation between the age of the farmer and the magnitude of the deviations from regression of the free market program score on the independent and collective action value and belief scales.

The computed correlation coefficient (r) was found to be .215 with 91 degrees of freedom. Since a correlation coefficient of .204 is
required for significance at the .05 level of probability, the null hypothesis is refuted.

The discussion and data related to the regression equation referred to in the above null hypothesis can be found in the findings chapter and in Table 55 in the findings chapter. The results of the test of this null hypothesis suggest that the regression equation more accurately describes the positions of younger farmers with respect to the free market program from their independent and collective action value-orientation configurations than the positions of older farmers with respect to these variables. The younger a farmer is, the more likely he is to hold a position concerning the free market consistent with his independent and collective action value-orientations.

A possible explanation for these findings is that many of the older farmers who are strongly individualistic and independent may oppose the free market system. The older the farm operators become, the more likely it is that they will rely upon those means which will give them the highest probability of remaining liquid for their retirement period (41). They may believe, therefore, that a free market system would create uncertainty for them with respect to prices and income at a time in which they wish to have assurance of both. Examination of the data indicates that this tendency appears to exist. More data is again needed, however, before more meaningful statements concerning this situational variable can be made.

Null Hypothesis: There is no correlation between the age of the farmer and the magnitude of the deviations from
regression of the compulsory price-supply management and control program score on the independent and collective action value and belief scales.

The computed correlation coefficient (r) was found to be .242 with 91 degrees of freedom. Since a correlation coefficient of .204 is required for significance at the .05 level of probability, the null hypothesis is refuted.

Data and discussion relevant to the regression equation referred to in this null hypothesis appear in Table 51 and in the findings chapter of this dissertation. The results of the test of this hypothesis suggest that this regression equation predicts the positions taken by younger farmers with respect to compulsory programs from their independent and collective action values and beliefs better than the positions taken by older farmers with respect to these same variables.

The same reasoning given above concerning age and the relationship between the free market program and the independent and collective action values and beliefs can be applied here. The compulsory program stabilizes prices and provides certain assurances concerning future income. Although the older farmer may adhere to the independent action value-orientation configuration, he may believe it in his best interest from the standpoint of security to support the compulsory program. An examination of the data indicate that there is some evidence that this proposition is correct, but the evidence is not convincing. More information is again needed before the reasons for impact of this situational variable can be fully understood.
This data analysis has been exploratory and ex post facto. Only a few situational variables have been found, and the reasons for their influence upon certain of the hypothesized value-orientation and behavior relationships are not entirely clear. This discussion has been presented to demonstrate that situational variables do exist and knowledge of these variables can lead to more meaningful data interpretation. It is hoped this rather inadequate demonstration will encourage more precise work on the part of those who study value-orientations and behavior in the future.

Discussion and Summary

This dissertation has examined the relationship between rural value-orientations and farm policy positions and actions. More specifically, this study has attempted to determine what role values and beliefs play in the present farm policy conflict.

Two forms of policy behavior were delineated; policy positions and policy actions. Policy positions were defined as intended or hypothetical policy behavior and policy actions were defined as actual participation in past and present policy. Six categories of government farm programs were defined. These include the voluntary price-supply management and control programs, the compulsory price-supply management and control programs, the free market programs, the auxiliary adjustment programs, the agricultural restraint programs, and the income transfer programs.

Various definitions of the terms value and belief were reviewed.
It was proposed that values are abstract normative propositions or standards which represents an individual's concept of what should or ought to be whereas beliefs are existential propositions concerning an individual's perception of reality. It was suggested that values may interact with beliefs and form value-orientations. The general notion that value-orientations are related to behavior was adopted, but this notion was considered to be a proposition and not an integral part of the definition of either values and beliefs.

Three general hypotheses were derived concerning the relationships between value-orientation and policy behavior. These hypotheses are:

**General Hypothesis 1:** There will be a predictable relationship between the policy positions and policy actions of individuals and their values or beliefs.

**General Hypothesis 2:** Certain values and beliefs will form value configurations or value-orientation configurations.

**General Hypothesis 3:** There will be a relationship between policy actions and policy positions and a weighted combination of certain value configurations and value-orientation configurations.

The literature relevant to rural value-orientations and policy behavior was reviewed, and 14 value and belief dimensions were developed. These were related to policy behavior through a number of sub-general hypotheses. The 14 value and belief dimensions were operationalized by 14 scales. Certain important modifications and additions to conventional scaling techniques were used in an attempt to obtain more accurate measurement of the values and beliefs under investigation.
A number of empirical hypotheses were derived from these sub-general hypotheses. Each of the general hypotheses were tested by inference from the results of the tests of these empirical hypotheses which related the empirical measures of the various values, beliefs, and policy positions and actions. Based on the analysis of data reported in this dissertation the following conclusions are made:

1. Values and beliefs are significantly related to policy behavior (General Hypothesis 1). The linear model appears to be the most appropriate model to describe the relationship between the value-orientations and policy behavior investigated here. An inspection of the scatter diagrams did not reveal the presence of any other type of meaningful function.

2. The values and beliefs examined in this dissertation form meaningful value-orientations and value configurations (General Hypothesis 2). Three complete configurations and one partial configuration were identified. These include the traditional value-orientation configuration (consisting of fatalism, traditionalism, farming as a way of life, debt avoidance, risk aversion and individualism), the independent action value-orientation configuration (consisting of independent action, individualism, and government dominance), the collective action value configuration (consisting of collective action, distributive justice, and commutative justice), and a partial cluster called the contemporary value configuration (consisting of scientific orientation and maximization of income). Risk
orientation, although hypothesized to be part of the contemporary value configuration, did not statistically relate to both of the values of this configuration.

3. Value-orientation configurations are significantly related to policy behavior (General Hypothesis 3). Value-orientations can also furnish useable predictions of policy positions and actions. Although highly statistically significant, the multiple relationships are of a moderate magnitude. For the most part, the proportion of variance "explained" by value-orientations is relatively small. It is concluded that the values and beliefs studied in this dissertation are important variables to consider when attempting to predict policy positions or actions, but by themselves explain only a small portion of the variance of the criterion variable.

4. Value and belief conflicts are evident in rural society and are related to conflicting policy alternatives. The independent action values and beliefs are related negatively to preferences for the compulsory programs and the voluntary programs whereas the collective action values are positively related to preferences for these two types of programs. The collective action values are positively related to participation in government farm programs, but the independent action values and beliefs are negatively related to participation in government farm programs. The independent action values and beliefs are positively related to the free market policy alternative, whereas the
collective action values are negatively related to preference for this program. The evidence for contrary patterns of policy positions and actions is not as convincing for the traditional value-orientation configuration and the contemporary value configuration. The traditional values and beliefs, on the whole, are positively related to the agricultural restraint programs but are not related to the auxiliary adjustment programs. The contemporary values, on the whole, are positively related to the auxiliary adjustment programs but are unrelated to the agricultural restraint programs.

5. There is evidence that certain situational variables influence some of the relationships between certain value-orientation configurations and policy positions or actions. The available measures of situational variables, however, are not adequate enough to determine the precise impact of relevant situational variables upon the relationship between value-orientations and policy positions and actions. It is concluded that future studies should consider situational variables more directly so that the relationships between value-orientations and behavior can be more fully understood.

**Evaluation and suggestions for future research**

Some general comments and evaluations regarding these conclusions will now be presented. Certain suggestions for future research will also be given. These suggestions are made primarily on the basis of the principal weaknesses of the present research study as judged by the author.
In general, the data strongly support the general hypotheses and sub-general hypotheses. It may be noted that the value-orientations are generally more significantly related to policy positions than to policy actions. This pattern of relationships has also been found in other studies (14, 23, 81, 82). The lower correlations between policy actions and value-orientations may, as many have suggested, be a function of the difference in actual and hypothetical behavior, i.e., people don't always behave like they say they will behave.

Situational variables or social constraints are probably not quite as important in hypothetical behavior as in actual behavior, for these constraints are more salient in actual behavior than in hypothetical behavior. It is suggested, therefore, that future studies closely examine possible situational variables which may influence the relationship between value-orientations and policy actions. It was found in this study that crop acres and soybean acres both act as situational variables with respect to the relationship between independent and collective action value-orientation and participation in the commodity credit corn program. Other situational variables which might be investigated are the influence of group norms, constraints which encourage participation such as financial necessity, etc., and the farmer's "calculation" of his chances of surviving the adjustments that would result if prices declined. This approach may clarify the relationship between policy actions and value-orientations, or at least provide more information about this relationship.

Only three sub-general hypotheses (1B, 1C, and 2B) were not supported
by the data. In the case of 1B and 2B, poor measurement of the value risk orientation may be an important reason why the data failed to support these hypotheses. It may be recalled that the risk orientation scale was one of the three scales which conformed the poorest to the conditions for additivity. With respect to Sub-general Hypothesis 1C, it is suggested that the theoretical basis for this hypothesis be revaluated before this hypothesis is included in any future work. The indirect nature of the auxiliary adjustment programs and the heavy emphasis upon retraining, information, and education may make these programs less objectionable to at least some of those who adhere to traditional values and beliefs than was expected.

In passing, it may be pointed out that the value individualism does not appear to fit well in either the traditional or independent action cluster. In all of the empirical tests involving the independent action value-orientation configuration, this value consistently was related the weakest to the behavior in question. Individualism is also among those variables which are related the weakest to policy positions relevant to the traditional value-orientation configuration. Perhaps the identification with each of these value-orientation configurations may be responsible for these poor results obtained with this value dimension. Future research studies should strive to obtain a more precise conceptual and operational definition of this concept so that it can be placed in one configuration or the other.

It has been found that values and beliefs form value-orientation configurations which are related to policy positions and actions. From
a prediction standpoint however, multiple relationships involving values and beliefs do not differ a great deal from the zero-order relationships. An examination of the regression analysis presented in the findings of the thesis reveals that the magnitude of a given multiple correlation coefficient and the magnitude of the highest zero-order correlation coefficient involved in the computation of that multiple correlation coefficient do not differ substantially. This situation is most likely a result of the moderate to high interrelation among the values and beliefs which constitute the independent variables. Put another way, if two variables are highly interrelated, the second will be explaining essentially the same variance as the first since there will be considerable overlap. Thus, not a great deal is gained when moderately or highly related values and beliefs are cast in a multiple correlation framework.

Future research studies may wish to include the notion of commitment when examining value-orientations (85). The intensity of commitment to a given value or belief may vary directly with the degree of consistency between values and behavior. The individual who is strongly committed to a value is emotionally involved with that value and most likely will behave more according to his values than one who is lowly committed to the same value.

The results of the study suggest that the scaling technique used to measure values, beliefs, and policy positions provides a relatively good operational measure of these concepts. There are several refinements, however, that could be carried out to increase both the reliability and validity of the measurement device. More items should be developed for
each concept being studied. An attempt should also be made to obtain more additive scales. There is some evidence that poor results concerning one value (risk orientation) may be a function of the relatively poor conformity of the operational measure to the conditions for additivity.

The use of verbal statements as a means to measure values and beliefs appears to have been a relatively successful technique in this study. This technique can be improved in several ways. A larger variety of statements should be developed to sample a wider range of the values and beliefs under examination. These statements should be constructed so that the structure of everyday life experience and conduct is reflected in them. The construction of more and better statements may be achieved by participant observation and informal sampling of farmer sentiments concerning the dimension of interest.

The results of this study can probably only be generalized to full-time Iowa farmers. As Schuler and Taylor (80) and Gillin (30) have pointed out, values, attitudes, beliefs, and opinions vary from region to region. Thus the pattern found in Iowa may differ greatly from that extant in other parts of the country. More research is needed to determine the pattern of relationship between values and farm policy in other areas so that these differences, if any, can be identified. It may be that value conflicts not only have an important influence on farm policy choices interregionally, but intraregionally as well.
In summary, it is the opinion of the author that the research reported in this dissertation has demonstrated that values and beliefs are meaningfully related to conflicting policy positions and actions. It is concluded, however, that these relationships cannot be fully understood until the influence of situational variables has been adequately examined and research concerning value-orientations and policy behavior is conducted in other regions of the country.


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APPENDIX A

Original Items Developed for Scales
FREEDOM-INDEPENDENCE ITEMS

Independent Action Items

1. Farmers should remain independent even if it means a loss of income to them.

2. People in our society have become so concerned with conforming to the actions of others that they have lost a part of the independent thinking that made this country great.

3. A farmer can no longer afford to make his decisions independently.

4. One of the worst things about some of the government programs is that they tend to destroy the freedom to make your own decisions.

5. Every person should find a way to help himself and not expect help from others.

6. I don't like to feel obligated to other people.

7. A man in business for himself should be free to make his own decisions without any outside interference.

Collective Action Items

1. An individual farmer can usually make better farm management decisions than a group of farmers or some agency.

2. The solution of the agricultural problem is going to depend on each farmer giving up a part of his independence.

3. Farming would be extremely difficult without the advice and help of neighbors.

4. Farmers must stick together in order to get things done even if they have to give up some of their individual freedom.

5. A basic cause of the agricultural problem today is that too many farmers want to go their separate and individual ways without regard for other farmers.

6. The performance of most groups is usually above the level of that which many of the group members could accomplish on their own.
7. Groups usually produce good solutions when confronted with a problem.

8. Farmers are too independent; if they are going to solve the farm problem, they are going to have to work together.

9. Unless farmers stick together the price situation in agriculture is going to get worse.

**Individualism Items**

1. A person should always be master of his own fate.

2. A man can be more successful by striking out boldly on his own than he can by following the advice of others.

3. Adults should always be expected to look after themselves unless they are sick.

4. Actually you can rely on very few people.

5. What someone else will think of a person's actions should never influence his behavior.

6. One of the best ways to get ahead financially is to be independent.

7. The most important function of education is to teach a person to be independent.

8. The independent spirit -- spurning all aid, needing no one, self-reliant and free -- this is man at his best.

9. If a man wants a thing done right, he must do it himself.

10. I'm not concerned about what my neighbors think of the way I farm.

11. The best way to avoid trouble is to be as independent as possible.

12. Farmers should be allowed to decide all things for themselves.

13. The most important quality of a real man is independence.

14. For the most part an individual should "go it alone" and make his own decisions.

15. In making decisions it is more important to follow one's own judgment rather than to do what other farmers are doing.

16. One of the best single indicators of whether or not a man will make a good farmer is his ability to make his own decisions.

17. The man who stands alone is the man who is admired.
Additional Items

1. The most important asset a farmer can have is the ability to make his own decisions and stand by them.

2. The trouble in this country today is that people depend too much on others.

*3. I admire the person who stands alone.

4. An individual's freedom is restricted by group activities.

5. An individual has a great opportunity for individual expression within our system of democracy.

6. I would much rather participate in group activities than go it alone.

*7. I would prefer to make my own decisions regarding my farm operations than abide by decisions made by the majority.

8. The farmer who is independent and self-sufficient is better off than the one who relies on others and their decisions.

9. I would prefer that my son choose an occupation where he could be his own boss rather than one where he works for someone else.

10. It is very important that the farmer be completely free to make his own management decisions.

11. A group is only as strong as its weakest member.

12. To be superior a man must stand alone.

13. The greatest lesson children can be taught is to be independent and self-sufficient.

14. What this country needs, more than laws and political programs, is more people who can think for themselves and make their own decisions.

15. Groups are the backbone of a democracy -- they allow for talking things over and making a decision on what should be done.

16. One thing I like about farming is that I can make my own decisions without any outside interference.

The following symbol is used throughout the Appendix:
* Items included in the pre-test questionnaire.
17. An individual should solve his own problems.

*18. Good group members should accept the criticisms of their points of view without arguments in order to preserve a harmonious group.

19. A man should make his own decisions without concern for the opinions of others.

20. Sooner or later farmers must come to recognize that they are in competition with each other.

*21. In making management decisions one of the important factors to be taken into consideration is what your neighbors will think about you for doing it that way.

22. Farmers are going to have to depend more and more on government programs.

23. Farmers really don't have to think a great deal about what they are going to do on their farms since this is largely decided for them by their land and by the kind of practices followed in the neighborhood.

*24. A man must be willing to make his own decisions, uninfluenced by the opinions of others.

25. The best way to avoid difficulty is to be as completely self-sufficient as possible.

*26. One of the major reasons for trying to get ahead financially is to be independent.

27. Perhaps the greatest advantages in farming is the opportunity to be your own boss.

28. The basic motivation behind all human behavior is self-preservation.

29. One of the greatest lessons a young man can learn is to make his own decisions.

30. In getting ahead in this world it's more important who you know than what you know.

31. One of the most important advantages of rural life is that a person has neighbors he can depend on in time of need.

*32. A man who works his own way through college comes out with a better education than one who doesn't pay his own way.

33. Knowing the dealer personally is a most important factor in deciding where to buy farm supplies.
34. Perhaps the greatest advantage in farming is the opportunity to make your own decisions.

35. The mark of a successful farmer is the one who has the respect of other farmers.

36. Many young farmers get started off on the wrong foot by trying to follow all the practices their neighbors are following.

37. All men are created equal.

38. Our free enterprise system is the backbone of democracy.

39. Probably the most distasteful thing about communism is that the individual has no opportunity to make decisions for himself.

40. Those farmers who have made the greatest financial success have been willing to deviate from what the rest of their neighbors considered right.

41. One of parent's greatest obligations is to teach their children to make decisions on their own uninfluenced by what others may say or do.

42. A young farmer would do well to find out the opinions of more experienced farmers before making decisions.

43. It is very important to have friends to whom one can go for opinions before making a decision.

44. If I were really truthful with myself, it is very important to me that my neighbors approve of the way I farm.

45. Farmers are not concerned enough about preserving the right to make their own decisions.

46. One of the things that city people miss out on is the close ties with other members of the community that you find in the country and small towns.

47. I really respect an individual who makes his own decisions and is willing to stand behind them.

48. In the final analysis even after I have collected a lot of information, I generally make my decisions after having talked to some people whose opinions I respect.

49. Before trying any new practice or idea it is pretty wise to wait and see how it is working out for some of the neighbors.
50. If it boiled down to two choices I would rather have the respect of my neighbors than to get ahead financially.

51. To be able to share ideas and advice with other farmers is one of the greatest advantages of farming.

52. Even though I've collected a lot of information on my own, I usually don't make my decisions until I've talked to some other people whose opinions I respect.

53. One of the most undesirable things about working for a big company is that all of your decisions are made for you by someone higher up the ladder.

54. To be accepted by one's fellow man is one of the most important goals in life.

55. I would much rather give up a part of my freedom to make decisions than to be forced out of farming.

56. One of the real advantages of vertical integration in farming is that someone else shares a part of the responsibility for the decisions that are made.

57. In the long run it's generally better to go along with the thinking of the majority than to push for the acceptance of one's own ideas.

58. One of the disadvantages of being independent and making one's own decisions is that you have nowhere to turn when you get in trouble.

59. In any group it is more important to keep a friendly atmosphere than to be efficient.

60. Young people today would be a lot better off if they would follow more closely the advice of their parents, teachers and other people with more experience.

61. In making decisions it's a good idea to get the advice from a number of people but then go ahead and make your own decision.

62. In a democracy like ours the way of the majority is usually the right way.

63. A farmer should decide what's right for his own farm and go ahead regardless of what his neighbors may think of him for doing it that way.

64. One of the desirable things about the government programs in agriculture is that they make the farmer's decisions easier.
65. A real problem in this country today is that too many people are relying too much on government programs to get them by.

66. Humans are rational beings whose actions are determined by self-interest.

*67. It is more important to me to be known as a person who gets along well with others and has a lot of friends rather than a person who likes to make decisions for himself.

68. When a man chooses to live in groups he must give up certain individual rights and submit to the decisions of the group.

*69. In this day and age a person can no longer afford to be independent and to rely on his own judgment in making decisions.

70. Farming has become so complex it is impossible to rely on one's own judgment in making decisions.

71. Above all other things children should be taught to respect the opinions of their elders.

72. Having the freedom to make up my own mind is, to me, one of the major advantages in farming.

73. In this day and age it is important that each person maintain his individuality.

*74. At the present time there is too much emphasis on groups and group activity in our country.

*75. Individual needs and desires should be subordinate to group needs and desires.

76. In any group there is a real danger in having members who always want to do things differently than the majority.

77. About the only way the agriculture problem is going to get solved is by individual farmers joining together to put up a united front.

*78. It is actually more satisfying to be a part of a group that has accomplished something of significance than to accomplish something on your own.

79. Generally speaking most group accomplishments result from a few individuals taking the initiative and leading the rest of the group members.

80. In farming the most successful man is the one who has earned the respect of his neighbors.
*81. Farmers' problems will probably never be solved by collective action.
82. Decisions made by a majority vote usually restrict the better farmer.
83. Farmers have more freedom to make individual decisions than most other occupational groups.
*84. The limitations which government farm programs place upon farmers' freedom are not severe.
85. Farm programs greatly impair a farmer's freedom to manage his farming operation.
86. One must avoid dependence upon others.
87. No matter what the circumstances, one should never tell other people what they should do.
88. Each individual should take care of himself and not have to depend on help even when some personal disaster occurs.
89. Too many people expect others to take care of them in time of trouble.
90. Each individual should be able to solve his own problems.
91. A person should be able to handle any situation in which he finds himself.
92. Individuals should solve their own problems regardless of the difficulties and sacrifices involved.
93. More children should be taught to be independent and self-sufficient.
94. The man who stands alone is the man who is respected.
95. A farmer must be free to seek out information and make his own decisions rather than be forced to accept the decisions of others.
96. Even though I make some mistakes, it is very important to me that I have the freedom to make my own decisions.
97. Many people who want complete independence are not willing to accept the consequences of their acts.
98. Actually I really don't care too much what my neighbors think of the way I farm.
MASTERY ITEMS

Fatalism Items

1. Fate seems to decide some people will be successful -- others failures.
2. The future is in the hands of fate and we might as well accept it.
3. For the most part, man is a victim of circumstances beyond his control.
4. Man is the victim of circumstances beyond his control.
5. We should view whatever happens to us as planned by forces beyond our control.

Additional Items

*1. There are so many unpredictables in farming, such as weather and prices, that a farmer really can't control how successful he is going to be.
*2. Farmers who blame weather, disease, prices, insects, etc., for their success or failure really don't recognize how much control they have over their situation.
3. A farmer really can control his own destiny if he tries.
4. A lot of success in farming depends on luck rather than planned decisions and actions.
*5. There are many things that happen in farming that just have to be accepted -- you can't do anything about them.
6. I believe there is a superior power that determines who will and who will not be successful and the individual's control is real insignificant.
7. Some people are born to be successful while others seem to be failures regardless of what they do or how hard they work.
*8. The most important element in success is how well man masters the environment in which he lives.
*9. The future depends on circumstances and there's not much we can do about it.

*10. In order to make progress, it is a good thing to fight a little against fate.

*11. Even for those farmers who carry out sound practices, weather is a major factor in determining their success or failure.

12. Farmers who are willing to take trouble to study the information available can practically eliminate weather as a factor in determining their success or failure.

13. The will of God determines who will be successful and who will be failures.

*14. Good management can eliminate most of the risks involved in any business.
BELIEF IN SCIENCE ITEMS

Scientific Orientation Items

1. A college education in agriculture is almost a necessity to begin farming these days.

2. The best way to compete in agriculture is to apply the latest scientific research.

3. The best thing a young farmer can do is to learn as much as he possibly can about new developments in agriculture.

4. Man's future depends primarily upon the technical advances made by scientific research.

5. The only way a farmer can maximize income is to use all the latest available research information.

6. Time spent in learning about new farming innovations is time well spent.

7. A farmer has to keep trying out new scientific practices in order to stay in farming these days.

8. A farmer must keep up with and apply the new methods in farming if he is to compete and stay in farming.

9. To be successful a farmer has to make more than average use of technical agricultural knowledge.

10. A farmer must keep up and apply new methods in farming to be able to compete.

11. Research information is a necessity to a farmer in making decisions.

12. Man's future depends primarily upon the technical advances made in scientific knowledge.

13. A farmer needs more than a high school education these days.

14. Many farmers waste too much time keeping up on new scientific developments.

15. Scientific advancements in agriculture have gone about as far as they can go.
Traditionalism Items

1. About the only thing that science has accomplished for the farmer is to make life more complicated.
2. I think traditional ways are the best ways of doing things.
3. It is more important for farmers to make decisions on the basis of past experience and rules of thumb than to try to find new ways of doing things.
4. The farmer who gets ahead fastest is the one who sticks to the old proven ways of doing things.
5. A farmer is better off to continue traditional farming practices since many of the new fangled ideas are not suited to his farm operation.
6. There is really no reason for man to explore outer space.

Additional Items

1. All of the workings of the human brain will eventually be explained by the laws of science.
*2. There is too much emphasis on science today and not enough emphasis on morals.
3. The principle hope for peace in the world is the advancement of man's knowledge.
4. Science is actually in conflict with Christianity.
*5. Many farmers have become so scientific they have forgotten the importance of good practical judgment.
6. There is really little prospect in the future for any major increases in yields per acre.
7. Education is valuable but it will never be as valuable as experience for success in farming.
*8. Good management is the application of scientifically developed principles.
9. New ideas in farming are alright but the farmer who works hardest is generally the most successful.

10. The person who is a good manager, regardless of the kind of business he is in, would probably be a successful farmer.

11. There is no substitute for practical experience in farming.

12. Farming is becoming more scientific and requires a high degree of technical training on the part of the farmer.

*13. Farming today is more a science than an art.

14. The successful elevator or feed store manager would probably be a successful farmer.

*15. Probably the best guide in making decisions is what has worked in the past.

*16. It is important for a farmer to be able to predict what's going to happen before it happens.

17. Time spent by the farmer in finding out about new ideas and practices in farming is time well spent.

18. The truly successful farmer is the one who weighs the profit to be gained from a new farm practice against other alternatives.

19. Everything considered, all of the scientific developments in this country have done about as much harm as good.

20. A farmer really can't afford to experiment with different ideas on his own farm.

21. In the long run practical experience and knowledge gained through experience are a farmer's most important assets.

*22. Many good ideas on raising children come from research on child care.

23. It is important to take time to consider the alternative ways of doing a job before deciding which one is best.

24. Good managers take the time to seek out information and use this information in making decisions.

25. The basic principles of farming really haven't changed much in the last 30 years.
26. Results of scientific experiments need to be tempered with the wisdom of experience.

*27. In general the farmer with the most education is the most successful.

28. The ability to make right decisions is something a person is born with.

29. The best guide for making decisions is a prediction of what's going to happen in the future.

*30. The future of agriculture depends largely on additional research.

*31. The principles of management of other fields can't be applied to farming.

*32. Our schools today don't place enough emphasis on science.

*33. People who do agricultural research really don't have an appreciation of the farmer's problems.

34. Most of the research information in agriculture is good but a farmer should try it on a limited basis on the farm before accepting it completely.

35. A lot of farmers use field-days and short-courses as an excuse to get away from the farm for a day.

36. Our high schools need to offer more science courses.

37. In the foreseeable future men will be able to control the weather.

*38. In the long run people who know how to do a job are worth more to society than the geniuses who invent new things.

39. The main reason for our schools is to teach young people how to get along with each other.

40. Getting ahead in the world depends more on gaining knowledge than on gaining friends.

*41. Knowing a dealer personally is probably the most important consideration in deciding where to buy farm supplies.

42. A farmer is generally ahead to buy farm supplies from a dealer who can also provide the latest research information about their uses.

43. A farmer can generally get more useful and practical information from other farmers than from the county extension director.
44. Advances made by science are primarily responsible for the farm problem today.

45. It's impossible to "farm by the book".

46. In general, farmers who keep good records and use the records in making decisions are the most successful.

47. In the final analysis most of a farmer's decisions are based on guesswork.

48. In judging neighbors the most important thing to consider is how practical his ideas are.

49. On the whole a farmer can get better information from specialists and farm magazines than he can from his neighbors and relatives.

50. I feel that research information put out by agricultural colleges is just as good to go on as if I had tried it on my own farm.

51. Many farmers spend too much time and effort trying to keep themselves up-to-date on new farming ideas.

*52. Since the future is so uncertain in farming a farmer has to depend to a great extent on what has worked in the past.

53. A farmer must continuously evaluate his operation and adjust his future plans on the basis of these evaluations.

54. Even with all the changes and new developments in farming, common sense is still the most important factor for success.

55. There are certain basic principles in farming that can only be learned from experience.

*56. Although there is new machinery, new fertilizers, new feeds, etc., the basic principles of farming really haven't changed too much in the last 30 years.

57. In the long run a farmer is better off to establish a pattern and stick with it than to continually change his farming operations.

*58. A farmer should try research recommendations on his farm on a limited basis before accepting them completely.

59. Common sense is still the most important factor in farm decision-making.
60. Farmers really don't have to think a great deal about what they are going to do on their farms since this is largely decided for them by their land and by the kind of practices followed in the neighborhood.

61. People were better off 50 years ago before scientific advancements complicated life so much.

62. Science is the hope of the future.

*63. Eventually, science will eliminate all the uncertainty in raising crops.

*64. Someday a farmer will be able to control all aspects of farming by applying scientific techniques.

65. Science will never eliminate all risk in farming.

*66. The day is coming when science will make farming no more risky than any other business.

67. The farmer will always be somewhat helpless in facing the many uncertainties in farming.

68. There are no limits to what science may eventually discover.

69. Every event in the Universe is determined by some natural cause which will eventually be discovered by science.

70. Science has its place, but there are things that can never possibly be understood by the human mind.

71. One of the greatest aids to the farmer is the research work carried on by agricultural scientists.

*72. More farmers should attend Extension Service meetings, field days, and farm tours.

73. In these days a college education in agriculture is essential in order to do an adequate job of farming.

*74. Technical agricultural knowledge is much more important to success in farming these days than knowledge gained from the personal experience of other farmers.

*75. Most farmers spend too much time and effort keeping themselves up-to-date on new farming practices.
76. Most of the discoveries made by agricultural scientists are impractical for the average farmer.

77. A high school education is essential for a farmer to make the greatest use of agricultural research findings.
IMAGE OF FARMING ITEMS

Maximization of Income Items

1. If a farmer could make more money in another occupation, he should leave farming.

2. Making money is the most important consideration in farming.

3. Making as much money as possible is a very important consideration in farming.

Way of Life Items

1. In getting ahead in this world it's more important who you know than what you know.

2. Much of the research information farmers receive is too impractical to be of value.

3. Older, more experienced farmers in the community are probably the best source of information on farming ideas and practices.

4. Most farm families would do well to hold off buying modern equipment and conveniences for their homes until they can pay cash for them.

5. The farm is a good place to raise a family; this is reason enough to maintain as many families in farming as possible.

6. The farm is a good place to raise a family; this is reason enough to stay in farming.

Additional Items

1. It is realistic to say that about one-third of today's farmers will have to leave the farm in the next ten of fifteen years.

2. The family-type farm should be maintained at all costs since it has been so fundamental in agriculture in the past.
3. Farming to me is more a way of life than a way to make money.

4. A farmer must keep up with and apply the new methods in farming if he is to compete and stay in farming.

5. A great deal of technical knowledge is required to be a successful farmer.

6. Many adjustments including reducing the number of farmers and increasing the average farm size are needed to bring agriculture into balance with other sectors of the economy.

7. Many farmers waste too much time keeping up on new farming practices.

8. Farming involves the use of scientific principles and is thus more of a science than an art.

9. Many agricultural adjustments are needed in the next few years.

10. There are too many farmers.

11. There is no longer room in agriculture for the farmer whose only asset is that he has been in farming a long time.

12. Farming is still a family enterprise.

13. It is best to follow the practices that have been used for a number of years rather than seek new ones.

14. The small farm operators are the ones who won't be able to compete in the future and will probably have to leave farming.

15. Keeping a good set of records is a very important aspect of farming.

16. A farmer should use all the sources available to learn about new ideas in farming.

17. Farming is an end in itself rather than a means to other ends.

18. A farm is the best place to raise a family.

19. Many farmers spend too much time trying to avoid hard work.

20. I would put more faith in my father's management decisions than an agriculture expert from the State University.

21. I would rather clear $3,000 a year on the farm than clear $5,000 a year in a town job.

22. I like to wait to see what results neighbors get before trying out a new farm practice or seed variety.
23. I think a farmer has to keep learning and trying new things to stay on top.

24. It is very important for a farmer to attend field days and farm meetings.

25. I have tried out several new farm practices in the last few years.

26. Maximum profit is more important to me than improving the land.

27. People engaged in farming are the backbone of the country.

28. The economy of the country won't improve until the economic problems of agriculture are solved.

29. Farming was the first activity of mankind that led to civilization.

30. Agriculture is the most fundamental aspect of our economy.

31. Farming is a profit maximizing business more than a way of life.

32. As agriculture goes, so goes the nation.

33. Agriculture is no more important to our nation than any other sector of our economy.

34. The only advantage we have over many countries is the productivity of our agriculture, so it should be maintained at all costs.

35. Physical work is more important to success in farming than mental work.

36. Hard work means muscular work.

37. The farmer is in a situation similar to the small businessman in that his individual actions have virtually no effect on the overall market situation.

38. If the returns to capital and labor are to be at the same level in agriculture as in other sectors of the economy the number of farms will have to be reduced by one-third in the next ten or fifteen years.

39. The family-type farm should be maintained at all costs since it has been such a fundamental part in maintaining democracy in America.

40. There is no longer room in agriculture for the farmer whose only asset is the willingness to work hard.

41. The advantages of living in the country outweigh the disadvantages of a lower average farm income.
42. Owning a farm debt-free should be the most important goal of every farm family.

43. If I had a son, I would rather have him stay home and farm than go to college.

44. It is just as important for a farmer to belong to farm organizations and keep up on the latest techniques in farming as it is for the doctor to belong to his associations and keep up on the new medical techniques.

*45. Book learning and going to college to study agriculture are not very important to success in farming.

46. It is important for the future of agriculture to attract intelligent young people to farming.

47. Stewardship of the soil is one of the farmer's most important obligations.

*48. One of the most important things about farming is that you are guaranteed certain minimum essentials of living.

49. One of the problems of agriculture is that farmers are too independent and don't work together on their common problems.

*50. Farming is more important to me as a way to make the most money possible than because it is a way of life.

51. Most of the benefits of scientific advancement accrue to the above average farmer.
RISK PREFERENCE ITEMS

Risk Orientation Items

1. Farmers who are willing to take chances usually do better financially.

2. I regard myself as the kind of person who is willing to take a few more risks than the average farmer.

3. I would rather take a chance on making a big profit than to be content with a smaller but more sure profit.

4. Those farmers who specialize generally have a higher income than those who don't.

5. A farmer must be willing to take a great number of risks to stay in farming.

6. A farmer must be willing to take a great number of risks to get ahead.

Risk Aversion Items

1. It is better to make a smaller profit each year than to attempt something where there is a chance of losing.

2. In farming a bird in the hand is worth two in the bush.

3. A farmer ought to save as much as possible to guard against the risks that are always present in farming.

4. A farmer should diversify his farming operation to hedge against the greater risks in specialization.

5. A farmer needs to remain diversified to protect himself against a bad year.

6. A farmer should always have some money laid aside in case of emergency.

7. A farmer should try to reduce the risk or uncertainty in farming by keeping his operation diversified, even though it may mean the loss of some future income.
Debt Avoidance Items

1. Farm families would do well to wait until they have accumulated their own money rather than borrow for farm production purposes.

2. In being a successful farmer it is most important to do the best you can with what you have without going into debt.

3. Farmers should wait until they can accumulate their own capital rather than to borrow for farm production purposes.

4. A farmer should never borrow money for operating capital.

5. Rather than going in debt a farmer should make do with what he has.

6. The major goal of young farm families should be to stay out of debt.

Additional Items

1. A farmer must take a greater number of risks than the average self-employed businessman.

*2. A farmer should be conservative in making his management decisions due to the many uncertainties that are involved in farming.

3. Farming is an "all or nothing" proposition.

4. I would prefer to do things the way they have always been done than take the risk of trying some new method.

5. With the agriculture situation as it is today, it is especially important for the farmer to avoid all unnecessary risks.

6. A farmer is just increasing his risk when he uses new practices on his farm.

*7. A farmer ought to keep a relatively large reserve of cash to guard against the risks that are present in farming.

8. Farmers need to take more risks.

9. The conservative farmer who "plays it safe" is respected in this community.
*10. A reliable criticism of many farmers these days is that they have forgotten how to "play it safe".

*11. One of the most undesirable things about farming is the great number of risks that a person must take.

12. There is a large amount of risk or uncertainty that goes along with the use of any new farming technique.

13. A great deal of the risks involved in farming are eliminated by the good farmer.

14. Saving is even more important than wise spending.

15. Saving is the most important thing for future well-being.

16. In farming the successful man is one who stays out of debt.

17. Most farmers who enlarge their operations by borrowing make more profit than farmers who have small operations free of debt.

*18. A farmer should borrow enough money to have as much equipment and livestock as he needs, regardless of how much he is in debt.

19. A farm operator who is short of capital generally would profit by borrowing more money before paying off the debts he already has.

20. It is easy for a farmer to borrow more money in normal years than he can pay back.

21. In deciding whether to try a new farming practice it is most important to be among the first to change if it is a good practice.

22. In seeking to solve the present problems of American farmers the government should direct its attention to setting up more security measures to help the farmer during bad years.

23. It is important to select a good crop rotation and stick with it despite changing price conditions.

24. A farmer can borrow $500 to purchase a new piece of farm machinery that can make him an above average profit within the year. He should borrow the money.

*25. It is generally better to stick with practices that have proven to be productive rather than experimenting with new ideas.

*26. The farmers who are going broke these days are the ones who are scared to take a few chances.
*27. I regard myself as the kind of person who is willing to take a few more risks than the average farmer.

*28. Everyone should have some money laid aside for a "rainy day".

*29. One of the most undesirable things about farming is the amount of risk the farmer must bear.

30. The best advice to the young farmer is to be cautious.

*31. In making decisions it is better to think in terms of minimizing losses rather than maximizing profits.

32. A farmer can't afford to be without crop insurance.

*33. One of the most undesirable things about farming is the number and kind of decisions that have to be made.

*34. Before adopting a new farming practice it is a good idea to see what luck other farmers are having with it.

35. It is generally too risky to be among the first to try a new farming idea or practice.

36. I would rather invest money in a savings account in a bank than in speculative stock.

*37. Most people wait too long to make a decision.

38. Farmers who are willing to take occasional risks never seem to get ahead.

39. Farming probably involves a greater amount of risk than most other kinds of business.

40. A farmer can't afford to be without insurance on his buildings.

41. I like to put things off as long as I can in hopes that a better solution may turn up.

42. Even though it occasionally costs money it is better to wait to try some new ideas or practices rather than take the chance of losing.

43. Those farmers who wait to see how new ideas and practices are going to work seldom do well financially.

44. I enjoy making decisions.

45. The price of being a manager is accepting the risks that go with it.
46. In selecting enterprises for a farm it is better to stay with those that guarantee a small profit than to get into enterprises that have a higher return but also greater risk.

47. There is probably more money to be made from taking chances but the worry isn't worth it.

48. Young people today are too willing to take chances because they have forgotten how tough times can be.

49. If a person buys a farm he should put all the money he can into it until he gets it paid off.

50. It's better to do something wrong than not have tried.
ROLE OF GOVERNMENT ITEMS

Commutative Justice Items

1. The government should subsidize agriculture and keep the agricultural sector of the economy healthy.

2. The government should have a farm program that assures the farmer an adequate income.

3. The government should stay out of many facets of our economy since it only complicates matters.

4. We need strong governmental controls to improve our country.

5. The government should establish long-range price supports to help farmers make long-range plans about their farming operations.

6. The government should not assume the responsibility of guaranteeing the income level of any group of people in our country.

7. Farmers should have the responsibility of solving the farm problem and the government should stay out of the picture.

8. The government should not be involved in regulating agricultural production or setting guaranteed price levels.

9. The government has no responsibility to guarantee the farmer a fair return for his products.

Distributive Justice Items

1. The government should establish price and production controls in any industry in which the return to investment is lower than the average of the economy as a whole.

2. It is up to the government to see that everyone has a secure job and a good standard of living.

3. Any facility that provides for the common welfare should be government controlled.

4. The government should provide education and job retraining for those small businessmen not making a fair return on their investment.
5. The government should establish compulsory education programs in all rural high schools to provide training for non-farm jobs for those young people who may be leaving the farm.

6. The government should place price controls on farm inputs such as machinery, fertilizer, and seed to assure fair prices.

7. The government should assume the responsibility of equalizing opportunities of those starting out in an occupation.

8. The government has the responsibility of equalizing opportunity and income.

Additional Items

*1. The farmer would be better off if the government would get completely out of agriculture.

2. The government should have a program to move unemployed people from places where work is scarce to areas where there is work.

3. I think that the government is in agriculture to stay but its importance in the overall picture should be decreased.

4. The government is responsible for the mess the farmer is in today and therefore should help improve his economic position.

5. The government should assume the responsibility of equalizing opportunity for young farmers just starting out in farming by paying them a guaranteed income for the first few years.

6. The government has as much responsibility to the small businessman as the farmer.

7. One way by which the government could help agriculture is to provide low-interest credit to any young man starting out in farming.

8. Protective legislation such as grading regulations and the Pure Food and Drug Act is the only way in which government should enter the agricultural scene.

9. The government should enforce legislation that would assure a secure job to every person who desires one.

10. The government should assume the responsibility of assuring a high standard of living for everyone in the country.
The government should use agricultural products in foreign aid programs to a greater extent to solve the surplus problem.

The government should assume the responsibility of assuring a minimum income to everyone in our society who is gainfully employed.

The government should not be expected to establish high tariffs to protect the American farmer against foreign products.

The government should be fair to all sectors of the economy by not giving greater subsidies to one sector than to others.

The government should help the farmer ease his large cost burden by reducing tariffs on foreign made farm machinery.

The government should provide low cost crop insurance because the farmer is exposed to so many uncertainties such as weather.

The government shouldn't have farm programs to control production because sometimes people with a lot of capital make a killing.

Since the government is subsidizing so many other sectors of the economy, there is no reason why there shouldn't be farm programs to improve the farmer's income.

The government has the responsibility to make sure our best farm land is not diverted to non-farm use.

The government should help private agricultural businesses establish foreign markets for our agricultural surpluses.

The government should have no agricultural control programs in which the farmer does not have the final say as to whether or not the controls go into effect.

A farmer referendum shouldn't be the deciding factor in whether a farm program goes into effect.

The government should provide a program of land purchase credit which makes money available to farmers up to 100% of the cost of the land.
PERCEPTION OF GOVERNMENT ITEMS

Government Dominance Items

1. Production controls place too many restrictions on the efficient farmer.

2. Government farm programs tend to be too restrictive in that these programs limit farmers' operations and income earning possibilities.

3. The present government farm programs place a severe limitation on a farmer's freedom to manage his own farming operation.

Additional Items

*1. Despite what you hear, the government is actually playing a minor role in most of the affairs of the country.

*2. If the government would get completely out of agriculture, many farmers would be forced to leave farming for some other occupation.

*3. Prices are higher today than they would be if the government didn't have an agricultural program.

*4. Many inefficient and small farmers would not be able to stay in farming if it were not for support programs.

*5. Government farm programs do not limit a farmer's freedom to make decisions regarding the management of his farm.

6. We need to keep the governmental regulations that we now have.

7. Government farm programs are primarily responsible for the great number of farmers who have had to leave their farms.

*8. Prices would drop drastically if the government discontinued its agricultural programs.

9. Most of the present government farm programs are necessary to keep agriculture healthy.

10. If the government got out of agriculture, prices would eventually rise to higher levels after a period of time since supply and demand would be operating freely.
11. The migration out of agriculture is due primarily to the fact that the government's farm programs have not been designed to help those who need it most.

12. The farmer was better off before the government entered the picture with agricultural programs.

*13. Government farm programs have had little effect on farm prices during the past ten years.

14. The government is out to reduce the number of farmers.

15. The government is really not playing any greater role in agriculture than it is in many other sectors of the economy.

16. The government's actual involvement in agriculture has been greatly over-emphasized.

*17. Government farm programs have generally been favorable to all farmers by raising their incomes over what they would have been in the absence of farm programs.

18. Despite the wide publicity given to farm programs, they really haven't had much effect on the individual farmer.

*19. The government is definitely playing a major role in controlling the production of agricultural products.

*20. The government farm program is the most important factor in determining how well the farmer does in comparison to the rest of the economy.

21. The farmer would make a better living if the government wouldn't try to control the supply and the price of agricultural products.

*22. For all practical purposes, the government controls the individual farmer through production control and price support programs.

23. Government farm programs are designed to give the farmer a helping hand until he can get back on his feet.

24. Government farm programs help farmers by keeping the prices of farm inputs such as machinery, fertilizer, and seed in line with the prices they receive for farm products.

25. The present government farm programs are designed so they help those farmers who have the least need for help.
26. It is hard to figure where the money supposedly spent on farm programs goes because the programs put so little money in the farmer's pocket.

27. The present government farm programs are designed so they help those farmers who have the most need for help.

28. The government is spending more to support agriculture than any other sector of the economy except the military.

29. The government is playing as great a role in many other segments of the economy as it is in agriculture.

30. The government is playing a more dominant role in some other sectors of the economy than in agriculture.

31. The government is neglecting farmers because it allows manufacturers of farm inputs such as machinery, fertilizer, and seed to set their own prices which are out of line with what the farmers receive for their products.

32. The government's farm program is the most important factor in determining the price of farm products.

33. Government farm programs have really only helped the big farmers who don't need the help.

34. Actually, farm programs have more effect on the consumer than they do on the farmer.

35. If any benefits have accrued from farm programs, they have benefitted consumers more than they have farmers.

36. The government is not doing a good job of informing the people of the country about the farm situation and consequently the farmer gets blamed for a lot of things over which he has no control.

37. The government is helping the farmer a great deal by stimulating the demand for farm products both in the United States and in other countries.

38. There is bound to be some graft and corruption anytime the government gets involved to the extent which it is in agriculture.

39. The government has an active program to promote the use of agricultural products.

40. Government farm programs designed to regulate production and prices are actually a greater benefit to the middle man than they are to the farmer.
APPENDIX B

Intercorrelations of Scale Items and Programs
Table 60. Distribution of the intercorrelation among the items of the independent action scale

<table>
<thead>
<tr>
<th>Intercorrelation category</th>
<th>Number</th>
<th>Percent</th>
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<tbody>
<tr>
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<td>19.1</td>
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<tr>
<td>.10 - .19</td>
<td>5</td>
<td>23.8</td>
</tr>
<tr>
<td>.20 - .29</td>
<td>7</td>
<td>33.3</td>
</tr>
<tr>
<td>.30 and above</td>
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<td><strong>TOTAL</strong></td>
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<td><strong>100.0</strong></td>
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Range = -.010 to +.367

\[ \bar{r}_{ij} = .212 \]

Table 61. Distribution of the intercorrelations among the items of the collective action scale

<table>
<thead>
<tr>
<th>Intercorrelation category</th>
<th>Number</th>
<th>Percent</th>
</tr>
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<tbody>
<tr>
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<tr>
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<td>.40 and above</td>
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<td><strong>TOTAL</strong></td>
<td><strong>36</strong></td>
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Range = .027 to .482

\[ \bar{r}_{ij} = .201 \]
Table 62. Distribution of the intercorrelations among the items on the individualism scale

<table>
<thead>
<tr>
<th>Intercorrelation category</th>
<th>Number</th>
<th>Percent</th>
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<tr>
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Range = .005 to .509

\[ \bar{r}_{ij} = .207 \]

Table 63. Distribution of the intercorrelations among the items of the fatalism scale

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<th>Intercorrelation category</th>
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<td><strong>100.0</strong></td>
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Range = .383 to .672

\[ \bar{r}_{ij} = .451 \]
Table 64. Distribution of the intercorrelations among the items of the scientific orientation scale

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<td>.50 and above</td>
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<tr>
<td><strong>TOTAL</strong></td>
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<td><strong>100.0</strong></td>
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Range = .007 to .549

\[ \bar{r}_{ij} = .252 \]

Table 65. Distribution of the intercorrelations among the items of the traditionalism scale

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<th>Intercorrelation category</th>
<th>Number</th>
<th>Percent</th>
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<td>.20 - .29</td>
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<tr>
<td>.40 - .49</td>
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<td>.50 and above</td>
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</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>15</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Range = .077 to .529

\[ \bar{r}_{ij} = .322 \]
Table 66. Distribution of the intercorrelations among the items of the maximization of income scale

<table>
<thead>
<tr>
<th>Intercorrelation category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>.19 and below</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>.20 - .29</td>
<td>2</td>
<td>66.7</td>
</tr>
<tr>
<td>.30 - .39</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>.40 and above</td>
<td>1</td>
<td>33.3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>3</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Range = .231 to .471

$r_{ij} = .311$

Table 67. Distribution of the intercorrelations among the items of the farming as a way of life scale

<table>
<thead>
<tr>
<th>Intercorrelation category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>.09 and below</td>
<td>6</td>
<td>40.0</td>
</tr>
<tr>
<td>.10 - .19</td>
<td>5</td>
<td>33.3</td>
</tr>
<tr>
<td>.20 - .29</td>
<td>3</td>
<td>20.0</td>
</tr>
<tr>
<td>.30 and above</td>
<td>1</td>
<td>6.7</td>
</tr>
<tr>
<td>TOTAL</td>
<td>15</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Range = .006 to .449

$r_{ij} = .153$
Table 68. Distribution of the intercorrelations among the items of the risk aversion scale

<table>
<thead>
<tr>
<th>Intercorrelation category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>.09 and below</td>
<td>2</td>
<td>9.5</td>
</tr>
<tr>
<td>.10 - .19</td>
<td>5</td>
<td>23.8</td>
</tr>
<tr>
<td>.20 - .29</td>
<td>8</td>
<td>38.2</td>
</tr>
<tr>
<td>.30 - .39</td>
<td>4</td>
<td>19.0</td>
</tr>
<tr>
<td>.40 and above</td>
<td>2</td>
<td>9.5</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>21</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Range = .018 to .527

$\bar{r}_{ij} = .241$

Table 69. Distribution of the intercorrelations among the items of the risk orientation scale

<table>
<thead>
<tr>
<th>Intercorrelation category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>.09 and below</td>
<td>7</td>
<td>46.7</td>
</tr>
<tr>
<td>.10 - .19</td>
<td>5</td>
<td>33.3</td>
</tr>
<tr>
<td>.20 - .29</td>
<td>2</td>
<td>13.3</td>
</tr>
<tr>
<td>.30 and above</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>15</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Range = .018 to .523

$\bar{r}_{ij} = .109$
Table 70. Distribution of the intercorrelations among the items of the debt avoidance scale

<table>
<thead>
<tr>
<th>Intercorrelation category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>.19 and below</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>.20 - .29</td>
<td>2</td>
<td>13.3</td>
</tr>
<tr>
<td>.30 - .39</td>
<td>6</td>
<td>40.0</td>
</tr>
<tr>
<td>.40 - .49</td>
<td>4</td>
<td>26.7</td>
</tr>
<tr>
<td>.50 - .59</td>
<td>2</td>
<td>13.3</td>
</tr>
<tr>
<td>.60 and above</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>15</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Range = .225 to .665

\[ r_{ij} = .322 \]

Table 71. Distribution of the intercorrelations among the items of the commutative justice scale

<table>
<thead>
<tr>
<th>Intercorrelation category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>.19 and below</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>.20 - .29</td>
<td>3</td>
<td>8.3</td>
</tr>
<tr>
<td>.30 - .39</td>
<td>14</td>
<td>38.9</td>
</tr>
<tr>
<td>.40 - .49</td>
<td>11</td>
<td>30.6</td>
</tr>
<tr>
<td>.50 - .59</td>
<td>6</td>
<td>16.7</td>
</tr>
<tr>
<td>.60 and above</td>
<td>2</td>
<td>5.5</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>36</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Range = .264 to .693

\[ r_{ij} = .423 \]
Table 72. Distribution of the intercorrelations among the items of the distributive justice scale

<table>
<thead>
<tr>
<th>Intercorrelation category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>.09 and below</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>.10 -.19</td>
<td>6</td>
<td>21.4</td>
</tr>
<tr>
<td>.20 -.29</td>
<td>3</td>
<td>10.7</td>
</tr>
<tr>
<td>.30 -.39</td>
<td>11</td>
<td>39.3</td>
</tr>
<tr>
<td>.40 -.49</td>
<td>5</td>
<td>17.9</td>
</tr>
<tr>
<td>.50 and above</td>
<td>3</td>
<td>10.7</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>28</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Range = .145 to .547

\[ r_{ij} = .340 \]

---

Table 73. Distribution of the intercorrelations among the items of the government dominance scale

<table>
<thead>
<tr>
<th>Intercorrelations category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>.49 and below</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>.50 -.59</td>
<td>1</td>
<td>33.3</td>
</tr>
<tr>
<td>.60 -.69</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>.70 -.79</td>
<td>2</td>
<td>66.7</td>
</tr>
<tr>
<td>.80 and above</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>3</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Range = .583 to .769

\[ r_{ij} = .687 \]
### Table 74. Distribution of the intercorrelations among the six voluntary programs

<table>
<thead>
<tr>
<th>Intercorrelation category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>.09 and below</td>
<td>3</td>
<td>20.0</td>
</tr>
<tr>
<td>.10 - .19</td>
<td>8</td>
<td>53.3</td>
</tr>
<tr>
<td>.20 - .29</td>
<td>3</td>
<td>20.0</td>
</tr>
<tr>
<td>.30 and above</td>
<td>1</td>
<td>6.7</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>15</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Range = -.016 to +.415

\[ \bar{r}_{ij} = .163 \]

### Table 75. Distribution of the intercorrelations among the five auxiliary adjustment programs

<table>
<thead>
<tr>
<th>Intercorrelation category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>.29 and below</td>
<td>2</td>
<td>20.0</td>
</tr>
<tr>
<td>.30 - .39</td>
<td>2</td>
<td>20.0</td>
</tr>
<tr>
<td>.40 - .49</td>
<td>4</td>
<td>40.0</td>
</tr>
<tr>
<td>.50 and above</td>
<td>2</td>
<td>20.0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>10</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Range = .149 to .647

\[ \bar{r}_{ij} = .399 \]