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DIRECTING RURAL COOPERATIVES IN UNCERTAIN ENVIRONMENTS

*Iowa State University*

PH.D.

1980

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Directing rural cooperatives  
in uncertain environments

by

Betty Lynn Wells

A Dissertation Submitted to the  
Graduate Faculty in Partial Fulfillment of the  
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## TABLE OF CONTENTS

	Page
CHAPTER I. INTRODUCTION . . . . .	1
Applied Relevance . . . . .	2
Dissertation Overview . . . . .	3
CHAPTER II. LITERATURE REVIEW . . . . .	5
A General Model . . . . .	5
Three Perspectives . . . . .	7
The Population Ecology Perspective . . . . .	8
The Decision Making Perspective . . . . .	9
The Resource Dependence Perspective . . . . .	10
Putting the Pieces Together . . . . .	11
Units of Analysis . . . . .	11
What is Selected . . . . .	13
Time Frame . . . . .	14
Sources of Variation and Organizational Change . . . . .	14
Synopsis . . . . .	15
Cooperatives in a Theoretical Setting . . . . .	17
Evolving Structures and Organizational Form . . . . .	17
Evolution of Organizational Environments . . . . .	19
The External Control of Cooperatives . . . . .	21
Board Responsibilities . . . . .	23
Administration--An Internal Function . . . . .	25
Representation--An External Function . . . . .	26
Theoretical Concepts . . . . .	28
Environmental Uncertainty . . . . .	28
Environment . . . . .	30
Perceptions . . . . .	32
Uncertainty in the Context of Cooperatives . . . . .	35
Boundary Spanning Activities and Linkages . . . . .	36
A Resource Dependence Interpretation . . . . .	38
Cooperative Boards as Boundary Spanning Units . . . . .	39

	Page
Organizational Form . . . . .	41
An Ecological Interpretation . . . . .	41
Cooperative Form(s) . . . . .	43
Theoretical Hypotheses . . . . .	44
CHAPTER III. METHODS . . . . .	48
Study Background . . . . .	48
Procedures . . . . .	49
Questionnaire Construction . . . . .	49
Sample Selection . . . . .	50
Data Collection . . . . .	51
Operationalization of Concepts . . . . .	52
Uncertainty . . . . .	52
Linkages . . . . .	55
Traditionalism . . . . .	56
Competition . . . . .	57
Organizational Type and Structure . . . . .	57
CHAPTER IV. DATA ANALYSIS . . . . .	58
Uncertainty and its Correlates . . . . .	58
The Components . . . . .	58
Perceived Environmental Uncertainty . . . . .	58
Problem-Specific Uncertainty . . . . .	60
Uncertainty and Linkages . . . . .	62
Perceived Environmental Uncertainty . . . . .	63
Individual Director Linkages . . . . .	63
Board Linkages . . . . .	64
Cooperative Linkages . . . . .	64
Problem-Specific Uncertainty . . . . .	64
Individual Director Linkages . . . . .	64
Board Linkages . . . . .	66
Cooperative Linkages . . . . .	66

	Page
Summary of Linkage Correlates . . . . .	66
Uncertainty and Competition . . . . .	66
Uncertainty and Size . . . . .	67
Uncertainty and Traditionalism . . . . .	67
Cooperative Linkages and Correlates . . . . .	69
Zero-Order Correlations . . . . .	69
Board Member Organizational Linkages . . . . .	69
Cooperative Organizational Linkages . . . . .	70
Cooperative External Linkages . . . . .	70
First-Order Correlations . . . . .	72
Board Member Organizational Linkages . . . . .	72
Cooperative Organizational Linkages . . . . .	72
Cooperative External Linkages . . . . .	72
Multi-Variable Approach . . . . .	74
Board Member Organizational Linkages . . . . .	74
Cooperative Organizational Linkages . . . . .	74
Cooperative External Linkages . . . . .	74
CHAPTER V. DISCUSSION . . . . .	77
Results of the Data Analysis . . . . .	77
Implications of Results for Research Problem and Theory . . . . .	80
Suggestions for Further Inquiry . . . . .	83
REFERENCES . . . . .	87
APPENDIX A . . . . .	91
APPENDIX B . . . . .	104
APPENDIX C . . . . .	109

## LIST OF TABLES

	Page
Table 1. Summary of key differences between three theoretical perspectives . . . . .	12
Table 2. Overview of key concepts from three theoretical perspectives . . . . .	42
Table 3. Summary of return rates . . . . .	52
Table 4. Components of perceived environmental uncertainty measure by type of cooperative . . . . .	59
Table 5. Components of problem-specific uncer- tainty measure by type of cooperative . . . . .	61
Table 6. Summary of zero-order correlations and first- order partial correlations (controlling for type) between measures of uncertainty and linkages . . . . .	65
Table 7. Zero-order and first-order partial correlations (controlling for type) between measures of uncer- tainty and competition, size and traditionalism . . . . .	68
Table 8. Zero-order correlations between three linkage measures and organizational attributes . . . . .	71
Table 9. First-order partial correlations (control- ling for type) between three linkage measures and organizational attributes . . . . .	73
Table 10. Regression of seven organizational variables on three measures of linkages . . . . .	75



## CHAPTER I.

INTRODUCTION<sup>1</sup>

Directors of rural cooperatives face diverse demands. They must direct the cooperative according to the provisions outlined in the cooperative's articles of incorporation and bylaws. They must control the current operation of the cooperative and set future policy goals. As representatives elected by members, they must communicate with their member-constituency and with management. They must also communicate with external audiences that may hold different values. Board responsibilities are diverse and board decisions affect the cooperative in the short and the long term.

Despite the amount of responsibility delegated to cooperative directors, little is known about the extent to which they anticipate change or about the special challenges to board decision making in uncertain contexts. The lack of information about boards stems, in part, from the " . . . mystique of the inner sanctums of the corporate enterprise" (Garoyan and Mohn, 1976:1). The task is complicated by the wide latitude that boards have in form and function. Boards vary in structure, composition, behavior and size and individual directors have different objectives, economic orientations and values (Garoyan and Mohn, 1976:1).

This research was undertaken in order to fulfill the requirements of a graduate internship in applied sociology. The applied goal was to provide a descriptive profile of members of the boards of directors of Iowa cooperatives to the Executive Director of the Iowa Institute of Cooperation, a state cooperative coordinating council. The Executive Director hoped that information might also be gained that would help

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<sup>1</sup>The Iowa State University Committee on the Use of Human Subjects in Research reviewed this project and concluded that the rights and welfare of the human subjects were adequately protected, that risks were outweighed by the potential benefits and expected value of the knowledge sought, that confidentiality of data was assured and that informed consent was obtained by appropriate procedures.

directors cope with constant change. Thus, on a general level, the research problem was to provide descriptive information about cooperative directors and to suggest procedures, based on this research, by which boards of directors might cope with ongoing change.

Another goal of the internship was to apply sociological concepts and propositions to the research problem. In sociological terms, the problem was to determine directors' perceptions of and strategies for coping with an uncertain and rapidly changing environment. An overriding concern is the extent to which a grass roots organization such as a cooperative, a locally owned and managed institution, is able to thrive, or even survive, in this day and age. The sociological question to be addressed is: How can organizations such as cooperatives have autonomy and make quality decisions in a world made uncertain for them by extra-local forces?

#### Applied Relevance

All stages of the research project were designed to fulfill the applied objective of providing information to the sponsor of the internship. Yet, within this constraint, sociological concepts, methods and theories were to be utilized. While these two objectives are not mutually exclusive, the applied objective did take precedence.

The approach taken was to let the applied objectives dictate the selection of theoretical perspectives. Three perspectives which might be used to study rural cooperatives and their boards of directors were selected on the basis of what they might contribute to the research problem. The first, the decision making perspective, is perhaps the most common approach to studying boards of directors. The second, the resource dependence approach--a variation of exchange theory--has been employed in the last decade with some success. The third approach, population ecology, has not been used to study boards of directors but does show promise as an approach to the study of groups of organizations such as cooperatives. Its implications for cooperatives also have relevance for boards of directors.

Each of these perspectives and the research reported here may contribute to a "theory of cooperatives for the 1980s"--a need delineated by a task force evaluating the cooperatives' program of the Economics, Statistics and Cooperatives Service (Edick et al., 1980). This evaluation group consists largely of nonacademic professionals employed by cooperatives or ancilliary organizations. That such a group would advocate the development of such a theory is evidence that the gap between theory and its application will not only be bridged but that the bridge will also benefit both the sociologist and the practitioner. Thus, while there may be some rift between theory and data in the present research, the conclusions and implications drawn and the suggestions offered for future research are offered in the spirit of an ongoing dialogue between the theoretical and practical aspects of research on cooperatives and their boards of directors.

#### Dissertation Overview

The purpose of this research is to contribute theoretical and empirical information about boards of directors. A natural selection model of organizational change is presented in Chapter II. Three perspectives which may be integrated by this model are briefly reviewed: population ecology, rational decision making and resource dependence. The population ecology approach is assumed to be more general and thus subsume the resource dependence and decision making perspectives. Ways in which the population ecology approach complements the other two and might strengthen further research are stressed. Effort is made to select what is best from each perspective.

Key theoretical concepts are then presented: (1) environmental uncertainty and its components--perception, environment and uncertainty; (2) boundary spanning activities, especially organizational linkages; (3) traditionalism; and (4) organization form and structure, including size, type and age of cooperative and continuity of management. Several theoretical propositions are developed from these concepts which may be tested on the individual and/or organizational level.

In the third chapter, the study background is reviewed, the methodological procedures are discussed and the theoretical concepts are operationalized. Empirical data about the directors of two types of rural cooperatives are presented in the fourth chapter. These data were obtained from a survey of the directors and managers of 117 Iowa cooperatives. The data are used to test several propositions concerning the relationship between two measures of environmental uncertainty and (1) individual and organizational linkages, (2) competition, (3) traditionalism and (4) organizational type and structure. Next, organizational level data are used to examine correlates of organizational level linkages. Additional concepts used include age of cooperative and tenure of the cooperatives' managers.

The implications of the study are discussed in the final chapter. Ways in which an ecological approach might strengthen a cross-sectional study such as this are delineated. Specific suggestions for future research on boards of directors are set forth including a model into which the results of this and future studies might be incorporated. These suggestions are viewed as a means of developing a "theory of cooperatives" for the 1980s as proposed by Edick et al. (1980). Such a theory would undoubtedly need to be comprehensive and to incorporate, where possible, research which has come before it.

## CHAPTER II.

## LITERATURE REVIEW

Competing theoretical perspectives differ in the credit given individual decisions and deliberate organizational strategies in influencing organizational change. Three perspectives of organizational change are examined in this review: population ecology, resource dependence and rational decision making. Advocates of each perspective emphasize different units of analysis, time frames and sources of variation.

These differences are not easy to reconcile. Debate continues because of (Karpik, 1978:1,2):

. . . the absence of any manifestly superior interpretive model, the particular difficulties of empirical study, and the even match of contending forces within the scientific community.

However, theoretical diversity is an asset--evidence of science at work (Karpik, 1978:1,2). One must determine under what conditions each perspective has the greatest explanatory power. As pointed out by Hage (1978:138,9):

It does not pay to spend much time arguing for one or another intellectual perspective--for example, is structural-functionalism worse than conflict theory--but instead to use both perspectives in attempting to analyze some problem. . . . Likewise the question is not whether organizational sociology qua science or qua history is better but whether their combination is likely to have the most intellectual pay-off.

In the present study, three perspectives are applied. It is assumed that all three may be subsumed under a more general model.

## A General Model

The three perspectives may be viewed as variants of a general model in which a process of natural selection triggers organizational change (Aldrich, 1979:27-31). This model offers a way of integrating research from various theoretical traditions and forces the investigator to deal with the societal context within which organizations are created, survive or fail, and rise to prominence or sink into obscurity (Aldrich, 1979:xii). According to Campbell (1969:73), organizations evolve in

the direction of better fit with the environment in three stages:

1. The occurrence of variations, planned or unplanned.
2. The selection of some variations over others, whether selective elimination, propagation or retention.
3. The retention of positively selected variations whereby they are preserved, duplicated or reproduced.

Natural selection is a general model which is used to explain the process of change in all living systems. While typically applied to biological evolution, its relevance to organizations has recently become more widely appreciated.

This general model is being utilized because many questions of interest in organizational sociology require a theoretical perspective that takes account "not only the internal structure of organizations but also the forces in their environments that set limits to organizational discretion" (Aldrich, 1979:1). This model is thus compatible with the research problem of determining whether local cooperatives can maintain organizational autonomy and whether their directors can make quality decisions in an environment made uncertain for them by extra-local forces.

The occurrence of variations--the raw material of natural selection--is the first stage in the natural selection process. The greater the heterogeneity and number of variations among a population of organizations, the greater the chance for a close fit with the environment (Aldrich and Pfeffer, 1976:85). Deliberate variation from customary modes of behavior by innovating organizations, as well as the creation of new organizations, may introduce variation into a population. Primary sources of variation among rural cooperatives would include innovation and the creation of new organizations through either merger or consolidation. Variations need not be conscious; random or unplanned variations also contribute to organizational change (Aldrich and Pfeffer, 1976:87).

Two conditions must be present for environmental selection to occur (Aldrich and Pfeffer, 1976:88): a high rate (numerous instances) of variation and a high rate of mortality for organizations. The mortality

rate of cooperatives is well documented (Schaars, 1971:84; Knapp, 1973). Although environmental selection usually refers to the selective survival or elimination of complete organizations, in the case of cultural evolution it also applies to parts of organizations (Campbell, 1969:74; Aldrich, 1979:44). The utility of the pure natural selection model for organizations is limited, but less complete forms of selection may exist for all organizations.

Retention of organizational form depends on the transmission of knowledge or structure across generations, often via the material culture. The preservation of organizational form may be achieved in several ways (Aldrich and Pfeffer, 1976:96). For example, in a bureaucracy, documents and files provide a material record of past practices. Specialization and standardization of duties limit the discretion of office holders and protect organizations against random variations from policy. Centralized authority, a stable selection and promotion system, role socialization and ideology also preserve organizational form and character. Small, local cooperatives are generally not highly bureaucratized nor especially complex in their structure. Retention of form in these organizations results largely from the centralized authority of the manager and the traditional ideology to which members adhere. External retention mechanisms include the environmental demands that originally selected the structure, competitive pressures, members' pressures and political pressures (Aldrich and Pfeffer, 1976:98). Such a mechanism may promote or inhibit organizational adaptation.

### Three Perspectives

Aldrich (1979) applies the natural selection model to three perspectives, treating population ecology as a form of pure natural selection, resource dependence as modified natural selection and decision making as rational selection. This integrating framework elucidates the key elements and contrasts between the perspectives and provides the basis for a multi-perspective approach to boards of directors of cooperatives in uncertain environments. Before specifically examining the

points of contrast and the way in which each part relates to the general model, each perspective will be briefly reviewed.

### The Population Ecology Perspective

The population ecology perspective advances a strong argument for the primacy of the environment as a determinant of organizational structure. According to this perspective, environments select those organizational forms and activities that best fit environmental characteristics. Organizations with structures that fit environmental requirements are more likely to survive.

Ecology typically views communities as functional organizations of populations in the process of achieving and maintaining adaptation to an environment. More recently, ecology has been used to explain the form that organizations assume in response to varying demographic, technological and environmental pressures (Hannon and Freeman, 1977).

The ecological model emphasizes the external control of organizations. In this model (Aldrich and Pfeffer, 1976:102), the "role of decision making and choice is downplayed and the possibility that people shape . . . their environment is ignored." Individual perceptions and decisions are no more likely than luck, chance and random and unplanned events to induce organizational change. The model does not deny the importance of individual choice; such is not at issue. It points instead to a more balanced viewpoint (Aldrich, 1979:22,23): "How, under what conditions, in which specific ways, are environments, as opposed to individuals, the driving force underlying organizational change?" Some organizations will fail despite good management and others will survive despite poor management.

Aldrich (1977:55) summarizes the ways in which the population ecology model differs from traditional explanations of organizational change:

First, it focuses on the nature and distribution of resources in organizations' environments as the central force in change, rather than on internal leadership or participation in decision making. Second, it examines organizations as representatives of types found in populations consisting of hundreds and often



thousands of other organizations, thus using an aggregate as opposed to an individual level of analysis. Third, it takes into account the historical context within which organizations emerge, paying particular attention to political and economic conditions. Finally, the population ecology model re-establishes the link between organizational sociology and the general analysis of social organization that was weakened in the decades following World War II.

The population ecology model is ideally applied to populations of organizations, existing over time, with numerous variations.

Little organizational research has utilized the pure natural selection--or population ecology--model. Some work consists of economic studies of long range changes in industrial composition and theoretical discussions of the effects of competition and financial constraints on firms' internal decisions (Starbuck, 1975:1105). Stinchcombe (1965) also approached organizations from an evolutionary perspective. In addition, some elements of structural contingency theory are compatible with an evolutionary or ecological theory (Aldrich and Pfeffer, 1976).

Although ecological explanations add an historical, developmental dimension to organizational analysis, the model is under-utilized because longitudinal data, necessary for an adequate test, is often unavailable. Furthermore, its applicability is complicated by the role of the government and by the size of the organization(s) under study (Aldrich, 1979: 41-43). Finally, post hoc applications of evolutionary theory are often tautological. However, when ecological explanations are not sufficient, they may supplement and strengthen other perspectives.

#### The Decision Making Perspective

The decision making perspective focuses on environments as seen by organizational members. Emphasis is placed on perceptions and cognition. Environments are viewed as enacted or created through a process of attention and bounded by members' perceptions of the flow of information (Weick, 1969; Child, 1972). The environment consists of information, a raw material acted on by sentient actors (Aldrich, 1979:110).

Information obtained from the environment is used by decision makers to maintain or modify organizational structures and activities

(Aldrich, 1979:122). Areas of research include decision processes within organizations, the conditions under which information is perceived and interpreted by participants, and the impact of uncertainty on the ability of organizational members to make decisions and restructure their organizations to cope with uncertainty. The issue of perceptions of uncertainty by organizational actors is a crucial issue which will be addressed in depth during the presentation of theoretical concepts.

Administrative and social-psychological perspectives such as this tend to emphasize the key role of individuals as organizational leaders and innovators. There is a common tendency to assume that "organizations are people" and therefore the study of organizations is really the study of people (Aldrich, 1979:19). Although people do indeed reside in organizations and social relations do much to sustain organizations, such a view is incomplete. In the case of cooperatives, we will see that in many instances, control is out of the hands of members, managers and directors because of constraints in the extra-local environment.

#### The Resource Dependence Perspective

According to the resource dependence perspective, the number and distribution of interorganizational relationships in an environment is a function of organizational decisions and control over crucial resources. A key assumption of the model is that (Aldrich and Pfeffer, 1976: 83):

. . . organizations are not able to internally generate either all the resources or functions required to maintain themselves, and therefore organizations must enter into transactions and relations with elements in the environment that can supply the required resources and services.

Some interdependencies are based on differentiation and the interorganizational division of labor. Others result from deliberate attempts to establish or avoid interdependencies. If the organizational environment is viewed as an interorganizational network, then uncertainty is reduced and resources are obtained through the control of crucial interdependencies.

To thrive, organizations must effectively manage the demands of groups upon whom they are dependent for resources. They may shape and manage environments through structures and planned activities. In some organizations, management of the environment may be an even more important administrative activity than management of the organization (Pfeffer and Salancik, 1976). Support may be obtained through personal and organizational linkages. Boards of directors may provide linkages on the individual and the organizational level.

The impact of external, environmental forces upon the organization is a key element of this perspective. The environment is defined in terms of resources (Aldrich and Pfeffer, 1976:92). Organizations may be active in shaping and controlling their future, but their dependence upon other organizations for resources is more crucial to their survival than the processes by which environmental information is perceived by decision makers.

#### Putting the Pieces Together

One must select those aspects of each perspective which are most applicable to the research problem. The three perspectives outlined above may be distinguished on the basis of units of analysis, what unit is selected by the environment, appropriate time frame and sources of variation. These distinguishing properties are summarized in Table 1. It is the responsibility of the research to specify the organization(s), units of analysis, relevant attributes of the environment (information, resources, other organizations, competition, etc.), organizational structure and characteristics of decision makers.

#### Units of Analysis

The organizational analyst faces five levels of analysis (Hannon and Freeman, 1977:933): members, subunits, individual organizations, populations of organizations and communities of populations of organizations. The ecological analyst usually faces only the last three. Ecological explanations work better in some conditions than in others depending on the size of the organizational set, size of members of

Table 1. Summary of key differences between three theoretical perspectives.

PERSPECTIVE	UNITS OF ANALYSIS	WHAT IS SELECTED	TIME FRAME	SOURCES OF VARIATION, CHANGE, SELECTING AGENTS
Population Ecology (Pure natural selection)	Populations of organizations; single organization over time.	Organizational forms; entire organizations.	Evolutionary, historical or longitudinal.	Anything--luck, chance, planned or random variation. Source of change most often environment, social or cultural forces.
Resource Dependence (Modified natural selection)	Networks of organizations. Linkages sets.	All or part of organization.	Intermediate.	Actions by resource controllers; organizational actions. Source of change most often the environment, especially other organizations.
Decision Making (Rational selection)	Individual units, members, departments or other organizations.	Leadership structure; organizations with effective decision making structures.	Short-term.	Decisions, planning, choices. Source of change most often individuals.

the organizational set, and interorganizational characteristics such as amount and level of competition. Hannon and Freeman (1977) and Aldrich (1979) argue that this model may also be applied to the evolution of a single organization over time.

The resource dependence perspective encompasses several levels of units of analysis--individuals, organizations and interorganizational relationships such as dyads. It is particularly well-suited to the study of interorganizational relationships because of its roots in exchange theory. The decision making perspective is suited to the study of individual units, typically organizational members. If the unit is the individual then, of course, personal and social characteristics, attitudes and perceptions are important.

#### What is Selected

In pure natural selection, entire organizations are selected--either surviving or failing. In the most extreme case, entire populations might succumb. As pointed out by Campbell (1969), this perspective may also be applied to parts of organizations where the survival of one part (such as a department or division) is independent of another. According to Campbell (1969:74):

But the general model does not require this limitation, and is a part of the disanalogy between organic and social evolution. Because of the differences in the social preservation system, and because of the greater variety of integrational organizations compatible with effective collection action, human social organizations, unlike the organizations of cells in the body and unlike the social organizations of insects, can be varied and eliminated and modified on a part-by-part basis.

Thus, the failure of one aspect of an organization does not spell failure for the entire organization. The near or complete autonomy of subunits as "nearly decomposable systems" allows organizations to survive while parts may fail (Simon, 1962).

Modification of a pure natural selection view is consistent with an adaptation perspective toward organizations. Organizations may survive in a form hardly recognizable from the original--as in the case

of merger or consolidation. This structural adaptation may be either planned or unplanned.

### Time Frame

The population ecology model approaches organizational change from an evolutionary or historical perspective. The distribution of populations of organizations over time may be affected by events of which one is unaware or barely cognizant. To test the model, there must be present (Campbell, 1969:73) "consistent selection pressures operating over long enough periods and involving sufficiently large populations of social units to average out the purely fortuitous." The long time span of such models contributes to the explanation of organizational change, but also presents problems, especially the lack of longitudinal data and the danger of tautology inherent in applying an evolutionary theory post hoc.

In contrast, the decision making view is more short-term. Although Aldrich (1979:108) suggests that in some cases there may be little difference between the time span of an explanation based on the rational as opposed to the environmental model, the life span of an organization frequently surpasses that of its members.

### Sources of Variation and Organizational Change

The pure natural selection model is indifferent to the source of change. Planned events are no more likely to cause change than purely fortuitous events. In fact, external environmental, social or cultural forces are most often the source of change. Nonetheless, the scheme is not haphazard (Campbell, 1969:74):

It provides a plausible model for social systems that are 'wiser' than the individuals who constitute the society, or than the rational social science of the ruling elite. It provides an anticipation of powerful 'inadvertent' social change processes in our own day which may be adaptive in unforeseen and unwanted ways.

"Rational" solutions may be provided without deliberate planning in the course of natural selection. The movement of organizations or other systems is toward increased adaptedness, complexity, size and system

integration of social units if such increases give selective advantage (Campbell, 1969:73).

The rational selection model credits individuals, often leaders, with effecting organizational adaptation and survival. While there are variations among schemes, the role of environment is generally minimal. The resource dependence perspective incorporates the environment as an integral component but the environment is defined more narrowly than in the population ecology model--usually in terms of external organizations upon whom the focal organization is dependent. Individual actions may also be salient.

### Synopsis

The objective of this study is to apply appropriate aspects of each perspective to the research problem--cooperative autonomy and decision making in an uncertain environment dominated by extra-local forces. Most studies of boards of directors have taken a decision making or leadership approach; more recently, studies have taken the resource dependence perspective. Of course, none have taken the ecological approach because individual perceptions and actions are largely irrelevant to that perspective, although individual actions can be the source of variation.

There is no monolithic model. The approach(es) taken must be dictated by the data which are available and the socio-political context in which cooperatives exist. As seen in Table 1, the resource dependence perspective occupies a mediating position between the population ecology and the decision making models. It will be the perspective relied on most heavily because, in the author's opinion, studies from the resource dependence perspective in which the board of directors is the unit of analysis have been most illuminating.

This research was undertaken with the assumption that boards of directors may take an active role in directing organizational change and maintaining organizational autonomy, even survival. This assumption is conditioned by the review of literature and the inevitable conclusion that, in many cases, forces external to the cooperative contribute more

to the survival of the cooperative than decisions made by boards or members or managers of the local cooperative. The ecological model would take this alternative view to its extreme with an assumption that in the longer view individual acts may be inconsequential. If the cooperative survives--through natural selection--this does not mean that it has the best decision making apparatus or personnel or even structure. Survival could mean simply that the cooperative was in the right geographical space at the right time and in the right socio-political context.

The resource dependence perspective seems to mediate these two extremes by allowing some effective actions by organizational participants. But because it emphasizes the vital importance of resources usually obtained externally--it tends to keep the efficacy of the individual in proper perspective. The resource dependence perspective is not incompatible with the population ecology perspective, but it is more suitable for interpreting the individual and organizational data available.

Data will be interpreted in the context of this study from the decision making and resource dependence perspectives. If longitudinal data were available for a more representative cross section of cooperatives, the population ecology perspective would also be applied. As it is, potential contributions of the ecological view will be confined to the final chapter.



### Cooperatives in a Theoretical Setting

Three assumptions will be developed using the three theoretical perspectives. The first two assumptions--that both cooperatives and their environments are evolving--are drawn from ecological theory. The third assumption--that cooperatives are motivated as much by social and political as by economic concerns--is borrowed from the resource dependence perspective. From these assumptions and the literature reviewed in this section, it is concluded that boards of directors will have an increasing role in cooperative survival. This conclusion is consistent with both decision making and resource dependence perspectives.

### Evolving Structures and Organizational Form

The cooperative form may be viewed as an organizational adaptation to major shifts in the external environment. Cooperatives evolved as an organizational response by individual farm firms to external pressures. Cooperatives absorb for farm firms the uncertainty created by the natural environment, the economic or marketing structure of agriculture, technological change and interorganizational complexity. Of course, the salience of any particular external force will vary by individual cooperative, kinds of cooperatives and by time frame.

This report focuses on two forms of rural cooperatives: rural electrics and grain marketing cooperatives. Although other productive systems are organized cooperatively, perhaps none are better known than these two. They both hold unique positions in the history of the American cooperative movement.

The development of U.S. cooperatives during the early part of this century was restricted largely to agriculture (Knapp, 1973:538). For some time, the word "cooperative" was nearly synonymous with agricultural systems because of the dispersion of units and other features of the natural and organizational environment. Relative to other systems (Schrader and Goldberg, 1975:5):

. . . agricultural commodity systems present complex coordination problems--seasonal production but year round consumption, production affected by uncontrollable events, rapid changes in technology, time lags between decisions and output realizations.

The seasonability of production, perishability of output and uncontrollable events such as droughts, flood, plant disease and pests are vagaries of the natural environment. While cooperatives do not provide control over the natural environment, they may minimize the impact of natural forces. They provide commodity storage and marketing and provide information and service on plant disease and pest control. They provide some protection against fluctuations in the natural environment.

Technological change also promoted the growth and development of cooperatives (especially the rural electric cooperative). The industrial revolution increased consumer demand for food and fiber. Farm mechanization and communication and transportation innovations also impacted the primary producer and, in turn, cooperatives.

Perhaps the strongest stimulant of cooperative development was the impact of the market structure of agriculture on many individual farm operations (Torgerson, 1977:92):

The premise for cooperation lies primarily in the structural relationship of farm operators, characteristically atomistic in nature (many in number and relatively small in size), compared to those with whom they buy and sell (few in number and relatively large in size). Without the ability to organize, farmers are powerless to deal with firms that are increasingly characterized by fewer numbers, larger market shares, more diversification in product lines, and greater vertical integration of operations. The changing market structure of agriculture, a prime motivator in early organizing efforts associated with the emergence of commercial agriculture, remains today the underlying rationale for cooperative efforts by farm operators.

Cooperatives allow farmers to gain the benefits of large scale buying and selling, yet maintain the autonomy of individual firms. In sum, rural cooperatives enable farms to adapt to the organizational, natural and industrial-technological environment.

Rural electric cooperatives were formed to provide a service not available or available only at exorbitant cost. Although they were not modeled after agricultural cooperatives (Knapp, 1973:364), they developed among a population acquainted with agricultural cooperatives. Grain marketing cooperatives did not realize the potential role of cooperatives in the supply of electricity because they had little concern with supply functions in general.

Although it is debatable whether rural electric cooperatives represented a new form, we will view them as such. They filled an environmental niche which did not exist before electrification (Knapp, 1973:348; Aldrich, 1979:171-181). Rural electric cooperatives were a product of many forces including (1) technological change; (2) government subsidy of public works during the Great Depression; and (3) the underestimation by private power companies of the demand for and profitability of electricity in rural America. The absence of competition by private power companies was essential to the success of rural electric cooperatives.

#### Evolution of Organizational Environments

Cooperatives today face external challenges of a different kind than in the past (French et al., 1980; Torgerson, 1977). The impact of technology, for example, has diminished relative to the impact of other organizations. In a review of the challenges facing cooperatives in the next decades, Torgerson (1977) does not mention technology. French et al. (1980:4-9) stress the importance of continued technological development but it seems to this author that the impact of such advances will not compare with the magnitude of technological change experienced during the wave of farm mechanization. Both French et al. (1980) and Torgerson (1977) place more emphasis on problems facing cooperatives that result from the rate of social change and the increasing complexity of the interorganizational environment--the evolution of cooperative environments.

Emery and Trist (1965) developed a typology of organizational-environmental dependencies which reflects stages in the evolution of

organizational environments. Their framework includes intra-organizational relations, inter-organizational relations (input and output interdependencies), and extra-organizational relations. Extra-organizational relations are remote, indirect and largely beyond the control of the organization. They constitute the "causal" texture of the field. In this framework, the inter-organizational relations are equivalent to what Osborn and Hunt (1974:231-233) call the task environment. Extra-organizational relations are comparable to the combination of macro and aggregation environments.

Organizations, such as cooperatives, are located in turbulent fields (Terreberry, 1968:80). In such fields, the accelerating rate and complexity of extra-organizational relations may exceed a cooperative's capacity for prediction and control. Thus, the evolution of organizational environments (the remote, causal texture) may exceed the rate of evolution of the organization itself. Rapid change in external connectedness--extra-organizational relations--gives rise to increasingly unpredictable change in transactional interdependencies (the input and output interdependencies) (Terreberry, 1968:80).

Uncertainty is a characteristic of turbulent fields. The uncertainty produced by turbulent fields may be beyond the control of the organization. Uncertainty and turbulence affect the evolution of organizational environments such that the ratio of externally induced system change increases relative to internally induced change. Complex and unpredictable change have implications for rational decision making and long range planning.

Cooperatives are subject to external pressures which are often unpredictable and uncontrollable. Torgerson (1977:93) suggests that "the pace of structural change in the nonfarm sector is proceeding at a rate that challenges and sometimes exceeds farmers' willingness and financial ability to organize in an effort to countervail it." He attributes the changes to the external environment of cooperatives (1977:99):

The external environment that establishes the climate for group action by farm operators has undergone an element of change in the mid-1970s. The basis for this change can be found in the basic supply and demand balance for food and fiber items, the rise of populism, and associated concern with size of institutions, financial constraints on younger farmers entering farming, and the prevailing enforcement of antitrust laws and other governmental regulations relating to group action by farmers.

Additional external forces include the national and international economy, public opinion and resource shortages (fertilizer, water and petroleum).

### The External Control of Cooperatives

According to Thompson (1967:66,67), the crucial problem for the boundary-spanning units of an organization is not coordination of variables under the control of the organization but adjustment to constraints and contingencies not controlled by the organization--what economists call exogenous variables. Cooperatives are increasingly controlled by external, often noneconomic, forces. Although primarily economic entities, cooperatives also have distinct social and political characteristics. They are economic systems with a social content (Casselmen, 1952:1). Cooperatives promote the ideal of mutual enterprise for mutual benefit. The cooperative movement was characterized by a broad social purpose (Torgerson, 1977:92): to improve one's self and community through democratic, self-help organizations.

Cooperatives have historically subscribed to a normative ideology derived from the "traditional principles of cooperation" formulated by the Rochdale weavers in England in 1844. The "Rochdale Principles" include (Kravitz, 1974:22): (1) open membership; (2) one man/one vote; (3) cash trading; (4) membership education; (5) political and religious neutrality; (6) no unusual risk assumption; (7) limited interest on stock; (8) goods sold at regular retail prices; (9) limitation on number of shares owned; and (10) services at cost, with profits distributed according to patronage.

These ideas have evolved over time. Principles such as cash trading and no unusual risk are clearly outmoded whereas others continue to appeal to the loyalty and sentiments of many. Jerry Voorhis, former Executive Director of the Cooperative League, emphasizes the principles of open membership, limited interest, services at cost and one man/one vote (Kravitz, 1974:32). The U.S. Department of Agriculture emphasizes democratic member control, operations at cost and limited returns on investment (1974:33). The Agribusiness Accountability Project recommends compliance with five principles (Kravitz, 1974:33): (1) open membership; (2) one man/one vote; (3) membership education; (4) limited interest on stock; and (5) limitation on number of shares owned. The Project suggests that adherence to these principles is not idealism, but a procedural key to assure farmer-member control of cooperatives--a practical consideration which legitimizes and maintains public support of cooperatives.

The loss of public and legislative support may be the most serious challenge facing cooperatives because it threatens the existence of the organizational form and not just individual cooperatives. Political support for cooperatives has diminished with the shift of political constituencies from rural to urban areas. As cooperatives exercise less political influence, they become more susceptible to political challenges.

This is a relatively new phenomenon (Edick et al., 1980:5):

Although cooperatives have had their critics over the years, to a large extent their activities did not attract much public attention until the last decade. To be sure, the National Tax Equality League has campaigned long and hard for the repeal of what it perceived to be an unfair tax advantage granted to cooperatives. NTEL aside, cooperatives were generally regarded as relatively benign institutions.

The economic viability of cooperatives results, in part, from the Capper-Volstead Act of 1922 which bestowed political legitimacy on cooperatives. This endorsement must be continually renegotiated and defended.

Democratic ideals of cooperatives distinguish them from other corporations and engender public and legislative support. If legitimacy is socially as well as economically based, a single-minded pursuit of economic efficiency may not be the best political posture for cooperatives (Kravitz, 1974:36):

If cooperative leadership intends to emulate corporate agribusiness . . . then they also must be prepared to give up their public supports. It is not merely a matter of keeping faith with the Rochdale Pioneers and other founders of the cooperative movement--it is a question whether the new-look, management-run, profit-motivated enterprises can continue to justify their special position under the law, or whether they ought to be treated like other agribusinesses.

A committee reviewing and evaluating the Cooperatives' Unit of the Economics, Statistics and Cooperatives Service offers a similar assessment (Edick et al., 1980:5):

Because some cooperatives have become successful, competitors and other detractors have severely attacked legislation basic to the formation and existence of cooperatives. These attacks are designed to convince the general public that cooperatives hold too much power because legislation gives them an unfair advantage in the market place. Such attacks are expected to intensify in the 1980s.

Cooperatives can only maintain their social, political and economic legitimacy by responding to the demands of external interest groups.

#### Board Responsibilities

The evolution of organizations and their environments and the increasing extra-local control of cooperatives implies new and more critical demands on boards of directors. Garoyan and Mohn (1976:vii) concur:

We believe that the concept of the board as a viable body, able to obtain compromise among divergent and at times conflicting values of stockholders or members, employees, management, and society, is at a turning point. We believe this to be true for cooperatives as well as other corporations. If the corporate and cooperative concept is to survive, then the board itself must bring about changes in company performance to meet society's changing mores.

In this section, we will examine some assessments of the importance of cooperative boards' decisions. This is done in the context of internal and external functions. This analysis supports the conclusion that boards will play an increasing role in organizational survival.

The role of boards of directors of rural cooperatives has reached a critical point. This may be attributed, in part, to changes in the legal and political environments of corporations during the 1970s and the assignment of greater potential liability to directors for their actions and inactions (Aldrich, 1979:302). Experts believe that much responsibility for the future success or failure of cooperatives rests with the board of directors (Edick et al., 1980:5):

In particular, boards of directors will need to be especially astute as they develop policy guidelines and performance standards for evaluating their organizations. . . . Directors are called upon to approve expenditures on exceedingly complex and risky capital projects. Operating budgets, ranging from hundreds of thousands to billions of dollars, require similar director approval. In this complex decision environment, directors are legally responsible for preservation of the cooperatives' assets. In an increasingly litigious society, this is a risk laden responsibility indeed. . . . Directors generally, proprietary as well as cooperative, are the objects of increasing scrutiny and criticism by stockholder and the general public.

Despite these responsibilities, little is known about the role of boards of directors in relation to their environment or about how directors perceive their role (Edick et al., 1980:13):

The director's job must be better understood in light of today's larger organizations and the more hostile environment in which cooperatives operate. First the director's job must be more carefully described and understood than it is at present. . . . The whole question of who, indeed, controls the cooperative is bound directly to director performance.

The salience of internal to external considerations, for example, will probably vary across time, types of organizations, political conditions and board composition. The research reported will consider some of the correlates of uncertainty among directors of rural cooperatives.



Boards of directors fulfill both administrative and representative functions (Pfeffer and Salancik, 1978; Zald, 1969). These functions may be roughly dichotomized as internal (administrative) and external (representative) functions. Most studies of boards which take a decision making orientation tend to emphasize the function of the board in the internal (administrative) division of labor (Pfeffer and Salancik, 1978:169). These traditional views also tend to underestimate the importance of the board for the organization. More recently, boards have been studied from the resource dependence perspective. A resource dependence interpretation supports the view that a largely external function--representation--is as or more important than the internal function--administration. The distinction between what is internal and what is external will be considered next. A major thesis will be that if the ratio of external to internally induced change increases as organizational environments evolve, and if boards are more concerned with external questions than management, then the role of boards in relation to management will increase.

#### Administration--An Internal Function

In the ideal situation, boards share five internal administrative tasks with management (Garoyan and Mohn, 1976:40-43): planning, organizing, directing, coordinating and controlling. Boards should be more active in planning and controlling, whereas organizing, directing and coordinating fall more to management. However, the division of labor between board and management varies among organizations. In some organizations, boards may have no real role at all.

Control is an internal administrative function which the board performs as the agent of the corporation at the request of the members (Zald, 1969:98). Members, employees and managers have some control responsibilities, but the primary responsibility lies with the board. Control decisions made by the board include (Garoyan and Mohn, 1976: 105): (1) determining which policies and goals have been followed and their utility in providing guidance to the manager; (2) reviewing achievements in enacting board plans; (3) deciding on long term

commitments of resources; and (4) selecting managers and determining managerial succession. In short, the board should oversee organizational operations to ensure that the interests of the owners are served.

Planning is done by board and management to facilitate the adjustment of the cooperative to the changing environment (Garoyan and Mohn, 1976:80). In the ideal sense, boards, more than management, should make decisions on overall objectives, policies and goals of the organization and decisions involving long-range implications and consequential commitment of resources, including facilities, finances and personnel (1976:73). A board considers the goals and policies of the cooperative, acceptable levels of risk and alternative ways of achieving objectives. The boards' role in planning is general, comprehensive and long-term in scope.

#### Representation--An External Function

In a technical sense, directors serve as representatives for both internal and external audiences. Internally, directors advise executives and stockholders (or members) and act as trustees for stockholders (or members). In cooperatives, stockholders and members are the same and are viewed as internal constituents. We are more concerned here with external constituents. Externally, the board promotes and defends the growth, autonomy and effectiveness of the organization to major external audiences, including nonmember customers, creditors, suppliers, public agencies and the general public (Zald, 1969:98,99).

External constituents, as defined above, are comparable to what some researchers have called task environments. Dill (1958) defines the task environment as encompassing customers, competitors, suppliers and regulatory groups. Osborn and Hunt (1974) define task environment as other organizations that are relevant to organizational goal setting and goal attainment. Members and technology are treated as internal to the organization. External representation is used here in the sense that Osborn and Hunt (1974) use task environment, except that one less well defined group is included--the general public. Since many customers are also members, directors are said to provide external

representation only to nonmember customers. The role of the board in relation to members is considered as an internal, administrative responsibility.

Pfeffer and Salancik (1978:11,34) apply the concepts of effectiveness and efficiency, respectively, to internal and external functions. Effectiveness is one standard for measuring how well organizations meet the needs of external interest groups. External interest groups and organizations assess effectiveness on the basis on the legitimacy or usefulness of the organization. Legitimacy is externally derived and inseparable from values. Efficiency is an internal (often economic) measure of performance, based not on what is done but rather on how well it is done.

In some instances, representation may be more important than administration (Pfeffer and Salancik, 1978:169). This is likely in the case of cooperatives in light of an assumption of this research that one of the administrative functions of the board of directors--control--is being usurped by increasing extra-local control of the cooperative. However, the relative importance of representation versus administration will vary with organizational context. A board which does not represent the political and social interests of the community may be less effective. However, in the case of local cooperatives, local representation may be less important for survival than extra-local representation.

The implications of this conclusion for the community and the cooperative are complex. Torgerson (1977:91) suggests that the economic well-being of members and rural communities is the ultimate measure of cooperative success. While local control and autonomy may be desirable, it may not be feasible. Adherence to a rigid ideology of grass roots control will continue to result in cooperative mortality. Even if local autonomy could be maintained, local government may not be the best form of government for the community or its organizations (Martin, 1964). Terreberry (1968) suggests that the adaptability of a system is inversely related to its dependence on instinct, habit or tradition. In such cases, the economic well-being of members and survival

of the cooperative and its members must take precedence over the well being of the community even if this means that the cooperative should cease to exist locally.

The demands facing boards of directors of cooperatives are not simple. Pfeffer and Salancik (1978) hypothesize that demands for effectiveness are increasing relative to demands for efficiency. Terrence (1968) also forecast that the ratio of external demands would increase relative to internal demands as organizational environments evolve. In the organizational division of labor, management may pursue economic efficiency while the board pursues effectiveness. In these cases, the role of the board may increase relative to management and additional resources may be allocated to public relations in order to maintain organizational legitimacy.

### Theoretical Concepts

Several theoretical concepts will be presented which are used in propositions about director's linkages with their environment and the role of linkages in reducing uncertainty. Linkages are viewed as both connections with the external environment and as sources of information. In addition to these key concepts--uncertainty and linkages--several additional attitudinal and structural concepts will be presented. Uncertainty bears directly on board decision making and linkages offer a way of reducing uncertainty, contributing to the quality of board decisions and, perhaps, promoting organizational autonomy.

#### Environmental Uncertainty

Theorists from both the resource dependence and the decision making perspectives assume that complex, unstable and unpredictable environments generate uncertainty (Duncan, 1972; Aldrich and Pfeffer, 1976:92). Although popular, the concept remains ambiguous. Uncertainty has many, sometimes opposite, meanings. In the following discussion, several components of the multi-dimensional concept of environmental uncertainty are examined.

In the classical management sense, uncertainty is the inability to calculate probabilities for alternative choices. More recently, uncertainty has been viewed as a lack of information or, more specifically, the lack of feedback on the outcomes of decisions. For example, MacCrimmon and Taylor (1975:1402) suggest that uncertainty "exists in decision situations involving only partial knowledge of relevant variables. . . ." According to Lev (1975:864), an uncertain environment "does not fully disclose the alternatives available or the consequences of these alternatives." Galbraith (1973:5) describes uncertainty as "the difference between the amount of information required to perform the task and the amount of information already possessed by the organization."

Uncertainty may also result from too much information or the inability (of decision makers) to discriminate among large quantities of information. There is some evidence that information alone may not be sufficient to reduce uncertainty. More information may increase uncertainty because an individual or an organization has limited capacity to absorb all potential information (Nystrom, 1974). Decision makers may reach a point of limited return on additional increments of information and switch from maximizing to satisficing models of decision making (March and Simon, 1958).

Organizational environments are often described in terms of their uncertainty. Pfeffer and Salancik (1978:67,68) caution one not to confuse uncertainty with change:

Uncertainty refers to the degree to which future states of the world cannot be anticipated and accurately predicted. Uncertainty, according to the prevailing literature, tends to be associated with decentralized, less formalized organizations. . . . Occasionally, uncertainty has been confused with change (e.g., Osborne and Hunt, 1972). It is of course, quite possible to have rapid change which is predictable and, therefore, not uncertain. Uncertainty is determined by the level of forecasting capability of the organization at a given point in time; as forecasting techniques improve, uncertainty diminishes. Uncertainty itself is not problematic. It is a problem for organizations only when the uncertainty involves important interactions with other environmental elements that are

important for the organization. Uncertainty is only problematic when it involves an element of critical organizational interdependence.

In this research, uncertainty is defined as the inability to forecast the outcomes of alternative choices because of rapid and unpredictable changes in interorganizational and extraorganizational environments.

Environment Definitions of environment range from a general, broad conception of environment as "everything out there" to more precise specifications (Starbuck, 1975). Environment may be described as all elements with which organizations have immediate, direct interactions, including elements involved in or created by interorganizational relationships, and elements with which the organization has remote, indirect interactions. This definition encompasses most of the aspects delineated by Starbuck (1975:1082) and is consistent with the typology of organizational environmental interdependencies advanced by Emery and Trist (1965).

It may be more useful to delimit the boundaries of the organization and its environment. Pfeffer and Salancik (1978:12,13) adopt a more restricted view of the environment because an organization may be buffered from some elements in the environment while other elements are not important enough to require a response. As discussed earlier, environment is here dichotomized into the task environment and the aggregate and macro environment as defined by Osborn and Hunt (1974:232-233). The task environment is defined in terms of organizations with whom the focal organization has organizational or interpersonal connections. This view is similar to the concept of organization-set in which the relations between the focal organization and its organization-set are mediated by the role-sets of boundary personnel and the flow of information, products or services, and personnel (Evans, 1972:329). The task environment may be viewed as a more "local" environment because it involves more direct interaction with the organization.

A more "extra-local" environment includes what Osborn and Hunt (1974:231,232) call the aggregate and macro environments. The macro

environment is the general cultural context of a specified geographical area which may influence organizational characteristics and outputs. The aggregate environment includes associations, interest groups and constituencies operating within a given macro-environment. Together they constitute a larger, more general framework in which all organizations in a state, national or geographic area must operate. Personnel or members (and in the case of cooperatives, most customers) are treated as part of the organization, not the environment.

In addition to some confusion over organizational/environmental boundaries, researchers also tend to disagree on the impact of an objective environment. For example, decision making research tends to understate the influence of an objective environment and may point to factors which limit the influence of the environment on the organization. Public funds, for example, may protect organizations from possible failure. Child (1972) suggests that the environment is not an overwhelming constraint on organizations because decision makers have more autonomy than credited with by environmental determinists and may in fact have the power to reshape their environment. Child also suggests that environmental determinism blurs the distinction between the characteristics of the environment and the perception of those characteristics by persons within the organization. These three issues--the role of public funds, organizational power and autonomy, and the importance of perceptions--will be discussed briefly.

First, although the reliance of many organizations on public funds may protect them from the possibility of economic failure (Aldrich and Pfeffer, 1976:88), even among public organizations there can be intense competition for funds and occasionally these organizations do cease to exist. Public organizations are vulnerable to demands for public accountability. They may fail due to the lack of public or legislative support. However, the argument that an environmental perspective is best applied in situations of relatively unrestricted competition among many small, private firms has some credibility.

Second, although some organizations may have the power to reshape their environments, the power to modify environments appears to be limited to the largest organizations or those that are politically well connected. The following statement by Perrow (1970:99) is only partially correct:

Society is adaptive to organizations, to the large powerful organizations controlled by a few, often overlapping, leaders. To see these organizations as adaptive to a 'turbulent,' dynamic, ever-changing environment is to indulge in fantasy. The environment of most powerful organizations is well controlled by them, quite stable, and made up of other organizations with similar interests, or ones they control.

Although perhaps true for a few very powerful organizations, the situation is reversed for the majority of small and competitive organizations.

The population of business organizations is bifurcated by size (Aldrich and Pfeffer, 1976:88). One segment of very large organizations has a low mortality rate and the other segment of small organizations has a high rate of variation and turnover. The larger organizations are somewhat free from environmental restraints but many of the smaller organizations have much less freedom of choice and power as indicated by the very high mortality rate among new, small organizations. Among industrial firms, approximately half survive less than two years and four-fifths less than ten years (Starbuck, 1975:1104). Small and less powerful organizations are more vulnerable to environmental fluctuations than large and more powerful organizations.

Third, although the environment may be perceived differently by decision makers in organizations with varying structures and information systems, certain conditions may also minimize the influence of perceptions. The issue of real versus perceived environment is complex and may ultimately depend on the type of organization and the social, political and cultural context. Next, some facets of the debate over perceptions will be considered.

Perceptions      The concept of environmental uncertainty is often predicated with the modifier perceived which elicits a debate on the



relative importance of organization or individual cognizance of uncertainty. Some theorists claim that the effects of uncertainty are never independent of perceptions, whereas others point to factors which minimize the importance of perceptions. It is essentially a debate over the subjective versus the objective nature of the environment.

Most decision making research emphasizes the perceptual nature of uncertainty. If environments are enacted or created through the information gathering systems of organizations (Weick, 1969; Child; 1972, Galbraith, 1973), then uncertainty is a consequence of the way in which organizations and individuals structure information about the environment. Both organizational structure and individual perceptions may filter, distort or sharpen the perception of environmental-organizational interactions.

Those emphasizing the inseparable relation between environmental uncertainty and its perception acknowledge only the symbolic or cognitive level of interaction whereby individuals and organizations respond to meanings they attribute to various environmental conditions according to their perceptions of their surroundings (Dunlap and Catton, 1979:253). This is the view of symbolic interactionists.

However, individuals and organizations may interact with the environment on at least three different levels--the cognitive, the behavioral, and the physiological--and these levels may interact in yet unknown ways (Dunlap and Catton, 1979:253). Individuals and organizations may be affected by environmental conditions which they do not perceive and have thus not assigned a symbolic label or attributed any cultural meanings. Some aspects of the natural environment (drought, flood, soil erosion, resource depletion) may have direct, nonsymbolic effects on individuals and organizations in addition to perceived (symbolic) or cognitive effects. Although the cognitive dimensions have received the greatest attention, the behavioral and the physiological are no less real in their effects upon human beings and their organizations.

The extent to which subjective perceptions deviate from objective conditions and the manner in which perceptions vary within, across and between organizations awaits further research (Starbuck, 1975:1098). However, uncertainty conceptualizations tend (perhaps necessarily) to be organization-specific. Therefore, the researcher must "be sure the uncertainty concepts implicit in the selected instrument are consistent with the uncertainty conceptualization, either implicit or explicit, which is guiding the research (Downey, Hellriegel and Slocum, 1975:627).

It was suggested earlier that certain conditions may minimize the influence of perceptions. For example, hiring personnel from the same industry or subpopulation may create common perceptions of the environment in a subpopulation of organizations. Each organization is less sensitive to idiosyncracies of the local environment when perceptions are universally shared because no single organization is at a relative advantage or disadvantage in the competition for resources (Aldrich and Pfeffer, 1976:95).

In a highly competitive market, the salience of the objective environment appears to increase while that of the perceptions of that environment decreases. For example (Aldrich and Pfeffer, 1976:92),

. . . if the organization is severely constrained by the environment, as in a very competitive market, then perception is not important. The personnel in the organization will operate and perceive effectively or else it will soon go out of existence. Perceptions become important to the extent that the organization is insulated from or immune to environmental effects. To the extent that the organization is not tightly constrained, variations in perceptions of organizational reality have more importance in understanding organizational structures and processes.

The importance of perceptions also tends to be a function of organizational density (Starbuck, 1975:1077). When the number of interdependent organizations is very large, interorganizational perceptions are diffuse and general. The impact of any one organization upon another are diminished. Perceptions affect organizational behavior only when the population of organizations is small and stable enough for one

organization to perceive others as unique. When the population is very small, the impact of any one organization on another increases because one is able to forecast the actions of others. But such forecasts are unnecessary because the small number makes direct negotiation feasible. Sparsely populated sectors are thus inclined to form coalitions.

Uncertainty in the Context of Cooperatives      This study will take two approaches to uncertainty, each of which assumes that, as a population of organizations, cooperatives exist in a highly uncertain environment. Cooperatives originated to absorb the economic uncertainty of individual farm firms (Knapp, 1973). Twenty-five years ago, cooperatives still existed in a very uncertain environment (Casselman, 1952: 124,125):

Of all industries, agriculture has the most factors of uncertainty. In addition to an erratic demand for its products . . . the supply is most difficult to forecast and to control owing to climatic conditions, plant disease and insect pests . . . [and] . . . seasonability and perishability of agricultural produce. . . . The chief crops are produced once annually, yet they are in demand every day of the year. Difficulties of transportation, of fixed storage, and of refrigeration in transit, are thereby introduced. Furthermore, of all commodities, those produced on the farm are the most dissimilar in size, appearance and quality; hence their marketing requires a very complicated set of standards and rather strict supervision. Now if we add to the above elements of uncertainty, the factors of disunity and of absolute competition among thousands of farmers on the one hand, and that of well organized or monopolizing middlemen on the other, we have a state of anarchy in our agricultural economy.

The agricultural environment is, if anything, more uncertain today because of the evolution of its organizational environments. Torgerson (1977:100) suggests that it is of paramount importance to remember that the nature of the cooperative has not changed significantly from the past. Although challenges of a new sort may face cooperatives, production decisions continue to be made individually by farm operators in response to market signals.

Types of organizations may be arrayed along a continuum from high to low uncertainty. Pfeffer and Salancik (1978:155) postulate a curvilinear relationship between uncertainty and industrial concentration, with uncertainty greatest in firms of intermediate concentration. Cooperatives fit into this intermediate, highly uncertain category because they are more concentrated than individual farm firms, for example, but much less so than many industrial corporations and larger agribusinesses. The complex coordination problems of agriculture, the dispersion of farm operations, and the historically high mortality rate of farms and cooperatives suggest that cooperatives are not effectively insulated from environmental effects but are, instead, quite vulnerable. Thus, competition and environmental restraints may render perceptions less important than in some other industries (Aldrich and Pfeffer, 1976:92). Data which document high mortality rates further support the assumption that cooperatives exist in an uncertain environment relative to many other populations of organizations (Starbuck, 1975:1104).

#### Boundary Spanning Activities and Linkages

Boundary spanning activity is a multi-dimensional concept which refers to activities that are performed and connections established through interorganizational or interpersonal relationships with organizations comprising the task environment. Some theorists, such as Thompson (1967), suggest that uncertainty results in the establishment of a boundary spanning structure. Others, such as Leifer and Huber (1977), suggest that the structure may account for perceived uncertainty. Whatever the direction of the relationship, it is generally agreed that there is some association between uncertainty and boundary spanning activities.

Resource dependence theorists (Pfeffer and Salancik, 1978) maintain that boundary spanning activities are undertaken in order to obtain information, political power, or other resources and thus reduce uncertainty. Boundary spanning functions may be fulfilled by persons in information gathering roles or persons occupying strategic positions

relative to significant external audiences. The focus here is upon the boards of directors of cooperatives as an informal boundary spanning unit. It is assumed that the boundary spanning activities of the boards will have implications for board decision making and cooperative survival under conditions of uncertainty.

Coping with organizational environments requires stabilizing them or somehow reducing the uncertainty they impose upon the organization. Thompson (1967:67) suggests that organizations subject to rationality norms seek to isolate their technical cores from environmental influences by establishing boundary spanning units to buffer or level environmental fluctuations. The responsibility of the boundary spanning unit is to adjust to exogenous variables--constraints and contingencies not controlled by the organization.

The extent to which organizations establish boundary spanning roles depends upon (1) the size and formality of the organization and (2) the degree of stability and homogeneity of the task environment. Small organizations are able to survive with fairly simple structures, using few differentiated roles and functions (Aldrich, 1979:255). Because they are less formalized, small organizations are more adaptable; that is, they may more easily restructure for changing environmental conditions. They are willing and able to rely on information gained informally, such as through members, personnel or boards of directors.

Organizations facing stable and homogeneous task environments are less likely to establish elaborate boundary spanning structures. As explained by Thompson (1967:73):

The more heterogeneous the task environment, the greater the constraints presented to the organization. The more dynamic the task environment, the greater the contingencies presented to the organization. Under either condition, the organization seeking to be rational must put boundaries around the amount and scope of adaptation necessary, and it does this by establishing structural units specialized to face a limited range of contingencies within a limited set of constraints. The more constraints and contingencies the organization faces, the more its boundary-spanning component will be segmented.

Of course, organizations may face environments that are homogeneous and unstable or heterogeneous and stable.

A Resource Dependence Interpretation According to a resource dependence interpretation (Aldrich, 1979:293), decision makers possess an implicit hierarchy of preferred interorganization strategies. The first is a proprietary strategy where organizations maintain possession and control over resources and protect organizational boundaries. Their second preference is to cooperate or negotiate with another organization on a dyadic basis--entering into interorganizational relations, placing members on boards of directors, engaging in joint ventures, or merging with or acquiring another organization. The third strategy involves the cooperative interaction of many organizations and tends to occur when uncertainty and interorganizational dependence cannot be coped with by using either proprietary or dyadic strategies. Boards of directors implement a dyadic strategy whereby organizations give up some autonomy in order to win a greater measure of control over essential resources.

According to the resource dependence perspective, boards provide living linkages with the environment. They fulfill two boundary spanning roles (Aldrich, 1979:249,251): (1) an information processing role and (2) an external representation role concerned with resource acquisition and disposal. They may accomplish these roles through other organizational memberships or through other directorships.

The resource dependence perspective may be applied to interlocking directorates. Pfeffer and Salancik (1978:174) emphasize the external representation function of boards and point out two advantages of using board appointments to obtain continuing support from significant segments of the environment:

First, the appointment forces regular and legitimate contact with the organization, which provides opportunities for information sharing. The organization is in a position to obtain information from important interest groups and at the same time present information and persuade representatives to its own position. The second advantage is that potentially hostile elements can be neutralized by the fact that any one board

member represents only a small proportion of the entire board in most cases. The forced need to make decisions may create pressures for uniformity. . . .

However, the advantages of outside representation are tempered by the danger of overrepresentation of outside forces and the subsequent loss of organizational autonomy. Perhaps this is why it is not the preferred strategy for managing organizational interdependence and uncertainty.

Aldrich (1979:297) provides a comparable, although not strictly parallel, list of the external representative functions fulfilled by interlocking board appointments: (1) to obtain financial, legal or other strategic information or expertise; (2) to aid the organization in the search for capital or other resources; (3) to enhance the political power of the organization; and (4) to serve the interests of powerful external organizations.

Linkages may be provided by both internal and external board members. Internal directors (members or stockholders) provide linkages through their other organizational memberships or affiliations. External directors (nonmembers or stockholders) provide more direct linkages. "Outside" directors may be appointed to provide the board with special expertise (managerial or legal) or to co-opt and gain the support of important organizations in the task environment with which the organization is interdependent.

Cooperative Boards as Boundary Spanning Units      Cooperatives exist in a network of interdependent organizations. They depend on some organizations for the resources required for survival and other organizations may depend on them. Since organizational survival requires obtaining scarce resources, cooperatives must adapt to, cope with and attempt to manage and control crucial interdependencies. Dependence upon external agents for resources may lead to interorganizational actions such as mergers, joint ventures and cooptation (Aldrich and Pfeffer, 1976:92). Cooperatives may also manage the demands of organizations upon whom they are most dependent for resources and support through interorganizational boundary spanning activities such as

memberships and affiliations with other organizations in the task environment. Boundary spanning activity is a means of obtaining resources, including information, and reducing uncertainty.

Boundary spanning activity has costs for the organizations, including loss of organizational autonomy, but may be necessary for organizational survival. It is also expensive to establish specialized boundary spanning units. Thus, many small, less formalized organizations must rely on information gained informally through members, directors or other personnel (Aldrich, 1979:255). This strategy is less expensive and suits small organizations because, since they are less formalized, they may more easily restructure for changing environmental conditions. Thus, it is assumed that in small, local cooperatives, directors often fulfill a boundary spanning function.

It was also seen earlier than boundary spanning units tend to be most differentiated in unstable and heterogeneous conditions (Thompson, 1967:73). The task environment of small, local cooperatives appears to be dynamic (rapidly changing), but relatively homogeneous. That is, members of the task environment serve similar societal needs, are controlled by similar societal groups, with similar goals, structures, methods of operation and constituencies (Osborn and Hunt, 1974:234). Therefore,

If the task environment is dynamic but relatively homogeneous, the boundary spanning component need be differentiated or subdivided only to the extent that its capacity to monitor the environment would be over-extended (Thompson, 1967:73).

Thus, one would expect boards of directors of small cooperatives to fill informal boundary spanning functions. As cooperatives increase in size and task environments become more heterogeneous, cooperatives will seek to identify homogeneous segments and establish structural units to deal with each (Thompson, 1967:70).

Resource dependence ideas must be modified to apply to cooperatives. The use of outside (nonmember) directors by rural cooperatives is limited by law in Iowa (Iowa Code). One way that cooperatives



differ from ordinary corporations is that only patron members may be elected to direct Iowa cooperatives. Despite limitations on the use of "outside" or professional directors, directors may still function as representatives as a consequence of their membership in cooperative as well as noncooperative organizations, through participation in professional meetings and by affiliation with regional associations. Cooperatives gain the benefits of "outside" directors through the use of business professionals, including auditors, attorneys, investment consultants, collection specialists, and business management consultants (Dewey, 1975:27). Advisory committees may be established with representatives from outside the cooperative. Although cooperative boards have no "outside" members, they are still able to fulfill representative functions.

Each of the three perspectives toward organizations differ in their approach to the concepts of environment, uncertainty (and the importance of perception), and linkages. This review has not dealt exhaustively with the concepts from all three vantages. Some key ideas from this discussion, as well as some missing linkages, are provided in Table 2.

#### Organizational Form (or Type)

Organizational form is a concept of concern here because the study includes two different types of cooperatives: rural electrics and grain cooperatives. A major concern is whether type will have different implications for the research problem: maintaining organizational autonomy and making quality decisions in an environment dominated by extra-local forces. Whether the two types of organizations are in fact different forms is a question which must be settled through research. The concept of organizational form has validity only with units of analysis larger than the single organization. The following discussion is thus drawn largely from the ecological literature.

An Ecological Interpretation      From the ecological perspective, organizational form is a consequence of environmental, social and

Table 2. Overview of key concepts from three theoretical perspectives.

THEORETICAL PERSPECTIVE	ENVIRONMENT	PERCEPTIONS	UNCERTAINTY	LINKAGES
Population Ecology (Pure natural selection)	Resources are dispersed.	Perceptions may be inconsequential. Nonsymbolic forces are also germane.	Consequence of ob- jective environ- mental realities, e.g. density, com- petition, scarcity.	Symbiotic-commen- salistic relation- ships.
	Resource Flow			
Resource Dependence (Modified natural selection)	Resources are concentrated.	Important if orga- nization is insu- lated from envi- ronmental effects or if population of organizations is small and stable enough to perceive others as unique. Not important in competitive market.	Greatest in indus- tries of intermedi- ate concentration. Some conditions minimize the impor- tance of perceptions.	Undertaken to ob- tain resources and to reduce uncer- tainty. Interde- pendencies may also generate uncertainty.
Decision Making (Rational selection)	Information Flow. Socially constructed.	Medium through which organizations and decision makers mold and structure environmental stim- uli.	Lack of information or feedback on out- comes of decisions; Inability to calcu- late probabilities for alternatives. May be caused by too much information.	Undertaken to gather informa- tion.

cultural forces. Form is defined broadly and refers not to the shape of a particular organization but to the shape(s) of a class of organizations. Forces affecting the nature and distribution of resources in a specific environment account for differing organization forms. These forces include the role of the state, urbanization, technological innovation, characteristics of the labor market, and access or lack of access to power and wealth (Aldrich, 1979:164-183). These forces not only account for the origin of new forms but are also impediments or facilitators of the continued existence of new forms.

Organizational forms are specific configurations of goals, boundaries and activities. As organized activity systems, organizational forms are oriented toward exploiting the resources within a niche (Aldrich, 1979:28). Organizational niches are distinct combinations of resources and other constraints that are sufficient to support an organizational form (1979:28). All organizational forms fill an environmental niche, but not all niches have been exploited by an organizational form. However, the trend is toward niche saturation.

Cooperative Form(s) In response to economic pressures among cooperatives, some organizations have grown and some have disappeared, frequently after bitter inter-cooperative rivalry (Edick et al., 1980: 10). The concentration of resources among some cooperatives is such that they may enter and control lateral niches. However, the extent to which organizational growth and activities such as mergers, consolidations, and vertical and horizontal integration result in new organizational forms is subject to some dispute given the current state of organizational theory.

To determine whether rural electric cooperatives and grain elevator cooperatives are two different forms, it is necessary to examine their goals, boundaries and activities. Their origins suggest that they are different forms since they emerged at separate times and independently (Knapp, 1973:348; Aldrich, 1979:171-181). Of course, within each organizational form, the structure of individual organizations will also

vary. When structure varies to such an extent as to significantly alter goals, boundaries and activities, a new form of organization may have emerged.

### Theoretical Hypotheses

In this section, the relationships between two measures of environmental uncertainty and structural, organizational and individual correlates are posited. An understanding of these relationships should help determine the extent to which boards are limited by uncertainty and to which uncertainty is associated with individual, organization, or inter-organizational coping strategies. In the next chapter, data will be used to test these relationships at both the individual (director) and organizational (board or cooperative) level.

Drawing upon resource dependence theory, it was seen that directors may serve in a strategic boundary spanning capacity. Directors of local cooperatives fill a less formal role than in larger organizations and in noncooperative organizations where directors may be recruited solely to fill representative functions. Although it is generally agreed that there is some relation between uncertainty and boundary spanning activity, there is disagreement as to which is cause and which is consequence. For example, Thompson (1967) and other structural contingency theorists suggest that uncertainty results in the establishment of a boundary spanning structure. Others, such as Leifer and Huber (1977), suggest that structure and/or boundary spanning activities may account for perceived uncertainty.

Even if stated noncausally, the direction of the association is also in question. On one hand, linkages may be said to be associated with lower levels of uncertainty to the extent that linkages serve an uncertainty reducing (Pfeffer and Salancik, 1978:145) or uncertainty absorbing function (Aldrich, 1979:250). On the other hand, linkages may be said to be associated with higher levels of uncertainty. The reasoning here is that if organization members attempt to reduce perceived uncertainty by obtaining more information, then those with high

levels of uncertainty would engage in more boundary spanning activity in order to bring that uncertainty down to some manageable level (Leifer and Huber, 1977:238-239). Thus, we might expect the frequency of boundary spanning activity to be positively associated with perceived environmental uncertainty.

While both theoretical arguments have merit, it is here hypothesized that boundary spanning activities (in this case, linkages) will be associated with lower levels of uncertainty. It is assumed that by obtaining additional resources and information through increased external involvement, boards will become more certain about the environment. Furthermore, it is hypothesized that this relationship will hold for both directors and boards and for both individual and cooperative linkages.

Some theorists (Aldrich and Pfeffer, 1976:92; Starbuck, 1975) suggest that uncertainty is greater in situations of relatively unrestricted competition and for organizations of a smaller size that have fewer resources with which to acquire information and control inter-organizational dependencies. Thus, the second theoretical hypothesis is that competition (both cooperative and noncooperative) will be associated with higher levels of board uncertainty. In this case, an ecological variable (competition) is assumed to be related to a perceptual variable (uncertainty) which will be aggregated by boards.

The third hypothesis is that larger size will be associated with lower levels of uncertainty. Size is viewed as both number of members and volume of business. The rationale for this hypothesis is that organizations with more members and with a larger volume of business have more resources with which to acquire needed resources and information (Aldrich and Pfeffer, 1976:92). In this case, size is interpreted as a proxy measure for structure.

The fourth hypothesis is that traditionalism--a normative ideology toward cooperatives--will be associated with lower levels of uncertainty. This hypothesis assumes that traditionalism is a normative response for dealing with uncertainty. While traditionalism might

prevent the adaptation necessary for survival (Terreberry, 1968), it may also provide a form of ideological security which may prevent necessary change and reduce the perception of uncertainty.

In sum, the following relationships are hypothesized:

1. an inverse relation between uncertainty and boundary spanning activities (linkages) for both directors and boards and for both individual and cooperative linkages
2. a direct relation between level of competition (cooperative and noncooperative) and uncertainty
3. an inverse relation between size and level of uncertainty
4. an inverse relation between traditionalism and level of uncertainty

These relationships are complicated by potential differences between the two types of cooperatives: rural electric and grain elevators. Grain elevators and rural electric cooperatives may differ in several ways, including level of uncertainty, as a consequence of type. Because of possible confounding effects of type on measures of size, competition and boundary spanning activities, type of cooperative is theoretically justified as a control variable.

After determining whether these relationships exist, the analysis will shift from the individual to the organizational level and examine linkages as the phenomenon to be explained. The correlates specified will be organizational attributes. It is assumed that cooperatives exist in an uncertain environment and that resource dependence ideas about linkages are valid. The following relationships are expected:

1. a direct relation between annual dollar volume of business and linkages
2. a direct relation between number of cooperative members and linkages
3. a direct relation between age of cooperative (years since incorporation) and linkages
4. a direct relation between tenure of manager (years with the same cooperative) and linkages
5. a direct relation between amount of competition (cooperative and noncooperative) and linkages

It is also expected that linkages will vary between the two types of cooperatives. Type of cooperative will again be treated as a control variable in partial correlations.

The next chapter will focus on research procedures. The discussion will include a review of the background of the study, methodological procedures employed--including questionnaire construction, sample selection and data collection--and operationalization of the concepts presented in this chapter.

## CHAPTER III.

## METHODS

This chapter contains an overview of the methods employed in the study. The study background and objectives are discussed first. Next, procedures such as questionnaire construction, sampling and data collection are presented. Finally, the key concepts are operationalized. In the next chapter, the empirical hypotheses are tested.

## Study Background

A questionnaire was constructed and data were collected as a part of a research project designed to provide descriptive information to the Iowa Institute of Cooperation and to fulfill the requirements of a graduate internship in applied sociology. All stages of the research project from problem identification to the analysis of the data were guided by an applied methodology which was to provide information to this coordinating council. Although the compilation of data for descriptive purposes and for theoretical rigor are not mutually exclusive ends, the pragmatic purposes of the former do place limits on the latter. Since the data were not gathered for the purpose of hypothesis testing, their scientific utility and value is limited largely to hypothesis generation. Limitations imposed by the applied nature of the research design are noted, such as the tentative nature of the hypotheses drawn from the board member survey.

The data were collected during the summer of 1979 for the Executive Director of the Iowa Institute of Cooperation. The goal of the research was to provide the director with a descriptive profile of the members of boards of directors of Iowa cooperatives. A profile of members of the boards of local Iowa rural electric cooperatives and grain cooperatives was to encompass but not necessarily be limited to the following:

Age--size and type of farm operation; farm organizational affiliations; length of service; training experience; understanding of director functions, how they make decisions and attitudes regarding;



- (1) cooperative philosophy
- (2) director responsibility to board, members and management
- (3) working relationships to manager and other employees
- (4) regional cooperatives
- (5) the Iowa Institute of Cooperation
- (6) member and public relations
- (7) cooperative commitment
- (8) ability of director to influence board with own ideas

The Executive Director perceived a rapidly changing environment in both the agricultural and nonagricultural sectors and sensed that directors were insecure and confused about the real environment. The problem, in his words, was "to determine what groups can do procedurally to cope with constant change and to provide some tranquility for directors." The problem was defined in sociological terms as: "How can organizations such as cooperatives have autonomy and make quality decisions in a world made uncertain for them by extra-local forces?"

#### Procedures

Next, the methodological procedures employed will be discussed. These include questionnaire construction, sample selection and data collection. In the final section, the theoretical concepts will be operationalized.

#### Questionnaire Construction

Two questionnaires were constructed: one for the cooperative directors and another for the managers of each cooperative. The second questionnaire was essentially a factual information sheet which helped to minimize the length and unnecessary duplication in the questionnaire that was developed for the directors. It also provided complementary data on the organizational level. Copies of both questionnaires are reproduced in Appendices A and B.

The director questionnaire was a composite of original questions, questions submitted by the Executive Director of the Iowa Institute of Cooperation, and questions derived from other organizational studies (Biggs, 1978; Warren et al., 1973; Leifer and Huber, 1977; and Dewey,

1975). The questionnaire was reviewed by the Executive Director of the Iowa Institute of Cooperation, members of the author's Program of Study Committee and other researchers with experience in the area of cooperatives. The manager questionnaire (information sheet) consisted entirely of factual questions regarding the cooperative.

Prior to distributing the questionnaire, it was submitted to the University Committee on the Use of Human Subjects in Research. The research was approved by this committee on May 17, 1979.

### Sample Selection

The organizational population consisted of rural electric cooperatives and grain elevator cooperatives belonging to a state cooperative coordinating council. Pragmatic reasons dictated the highly selective nature of this population. The first was limited research funds; the second, the internship sponsor. The research was undertaken as part of an applied internship in applied sociology which was designed to provide information to the sponsoring organization. The sponsor suggested including the two types of cooperatives.

A random sample ( $n=90$ ) was drawn from 169 grain elevators with membership in the Iowa Institute of Cooperation. All of the rural electric cooperatives ( $n=27$ ) were included. The size of these samples was determined through consultation with members of the Iowa State University Statistical Laboratory. Consultation determined that all the rural electrics should be included because of the small number and that at least half of the grain elevators would insure adequate representation of the grain elevators. The inclusion of additional grain elevator cooperatives would be appropriate if financially possible, but would not be statistically necessary (Sudman, 1976). As in many applied research endeavors, practical considerations dictated the upper limit of the sample size. The consultants agreed that 90 grain elevators should adequately represent the total population (169). The 90 cooperatives were selected through the use of a computer program to generate random numbers which was written by the author.

All of the directors of the sampled cooperatives were included in the study. The number of directors per cooperative ranged from five to fourteen. Managers of the same 117 cooperatives were also included. The study thus consists of samples on two levels: a sample of cooperatives (n=117) and all the directors of the sampled cooperatives (n=960). Since samples were drawn on two levels, the study has two levels of units of analysis. In some instances, the unit of analysis may be the individual director; in other instances, the unit of analysis may be the board (aggregated individual responses) or the organization (based on the factual information provided by the managers).

#### Data Collection

Board member data were gathered during the summer of 1979 through the use of a questionnaire which was mailed to all board members of the 117 Iowa cooperatives selected in the sample. The procedure for data collection was the "Total Design Method" (Dillman, 1978). The questionnaire, a cover letter, and a postage-paid return envelope were sent to all directors in June and were sent again in July to those directors who failed to respond to the first request for information. Copies of the cover letters included with the questionnaires are provided in Appendix C.

A manager information sheet was mailed in July to the managers of the 117 cooperatives. A duplicate information sheet was sent in August to the managers who did not respond to the initial request. The managers were the source of the organizational level data. They provided information which would have been more difficult to obtain from the directors.

The final response rate was 50 percent of the directors and 92 percent of the managers. Response rates by cooperatives ranged from zero to 100 percent. The return rates, by first and second wave responses, for both directors and cooperative managers are summarized in Table 3. Whereas a higher response rate for directors would have been preferred, a third wave was not done for economic and practical reasons (the farmers would have been in the midst of harvest).

Table 3. Summary of return rates.

	DIRECTORS		MANAGERS	
	Number	Percentage	Number	Percentage
First Wave Return	270	28%	100	85%
Second Wave Return <sup>a</sup>	211	22%	8	7%
Total Return Rate	481	50%	108	92%
Total Mailed	960		117	
Number Excluded	38		0	
Late Receipt	4			
Incomplete Information	7			
No Longer Director	27			
Number in Data Analysis	443		108	

<sup>a</sup>Some overlap inevitable between first and second mailings

### Operationalization of Concepts

In this section, two measures of uncertainty are operationalized. Next, three measures of linkages (and some components) are set forth, followed by a single item indicator of traditionalism. Finally, several structural and organizational measures are operationalized: competition, size, tenure of manager, cooperative age, and type of cooperative.

#### Uncertainty

Uncertainty is approached from two dimensions. The first uses seven single item indicators which reflect an information view of the

environment. These items are based on the common assumption that complex, unstable and unpredictable environments generate uncertainty. According to Aldrich (1979:110), a special concern with investigators adopting an information perspective is the impact of uncertainty on the ability of organizational participants. The items included are intended to measure the impact of various sources of uncertainty on the ability of directors to make decisions.

The seven items are listed below. The first three are adapted from items used by Leifer and Huber (1977:240); the last four are of a similar, but more general, form:

1. How often are there changes in the social, economic and political conditions outside your cooperative which directly affect board decisions?
2. How often do you need to gather information from some person or organization outside your cooperative in order to make a decision?
3. How often do you feel uncertain about the results of board decisions?
4. How often are the plans made by the board affected by changes in government policies and regulations?
5. How often are the plans made by the board affected by lack of knowledge of competitors' actions?
6. How often are board plans affected by rapid and unpredictable change in the farm economy?
7. How often are board plans affected by rapid and unpredictable change in the general economy?

The first three items appear to relate more to situations under which uncertainty might develop. The last four items relate to sources of perceived uncertainty which, based on the review of literature, seem particularly cogent.

Responses are distributed on a five point scale ranging from one (never) to five (often). The responses are scaled for individual directors by summing individual uncertainty scores. Next, the responses of directors are aggregated by cooperative to obtain a board uncertainty

score. The alpha reliability coefficient for these seven items is .68. The average inter-item correlation is .28.

The next set of items reflects a problem-specific approach to uncertainty. A battery of potential problems was identified by individuals closely associated with or knowledgeable about cooperatives. Each potential problem is rated by the directors according to its seriousness on a scale from one (no problem) to five (serious problem). The 20 potential problems which directors are asked to rate are listed below:

1. public/consumer relations
2. competition from other cooperatives
3. competition from noncooperative businesses
4. dominance by regional cooperatives
5. obtaining energy supplies
6. availability of transportation
7. recruiting new cooperative members
8. retaining old cooperative members
9. obtaining quality personnel
10. marketing cooperative products
11. technological changes
12. urban encroachment
13. corporate control of agriculture
14. national economic conditions
15. changes in cooperative enabling legislation
16. availability of credit
17. government legislation related to farm price programs
18. government legislation related to production controls
19. government legislation related to credit policies
20. government legislation related to environmental and safety regulations

This list was generated through study of the literature, current events and discussions with persons knowledgeable about cooperatives. As a check on the content validity of this list of problems, the directors were asked to indicate the two most serious problems currently facing their cooperative. The most frequent responses, in order, are: transportation, energy, government regulations, cost of operations, obtaining credit, and inflation. All of the 20 problems listed above are mentioned by some directors as among the top two problems currently facing their cooperative.

A summated score is calculated for these 20 dimensions for each respondent. The alpha reliability coefficient for the grain elevator cooperatives is .85 with an inter-item correlation of .22. The alpha reliability coefficient for the rural electric cooperatives is .85 with an inter-item correlation of .21. These reliability coefficients indicate consistency among the respondents about the order of seriousness of the problems. The responses are also aggregated by cooperative to obtain a board score for problem-specific uncertainty.

### Linkages

Linkages are measured on two levels: individual (director) linkages and organization (cooperative or board) linkages. On the first level, the concern is with the number of memberships which individual directors have in various organizations: (1) general farm organizations, (2) farm commodity organizations, (3) cooperatives, and (4) local, nonagricultural organizations such as civic, political, educational, social and fraternal organizations. In the data analysis, these four categories may be considered alone or summated for a total linkages score.

The list of general farm and commodity organizations is provided in the questionnaire which is reproduced in Appendix A. The commodity organization memberships are legitimate "bridges to exteriority" (Mueller, 1979:1). One way in which boards combat excessive "interiority" is to open the boundary of the board to provide human linkages with other nonconflicting organizations and domains of human endeavor. In some organizations, this may be accomplished through responsible stewardship of "outside" directors engaged in primary career activity in other domains of concern to the organization, such as another economic sector or educational, public or social activity. In the case cooperatives, this might be accomplished by the involvement of the directors themselves in diverse external activities. It appears that the list of farm commodity organizations might bias the total number of

linkages in favor of the directors of grain elevators who are farmers, but this will be addressed later.

Individual linkages serve as a means of gathering information. They are also a measure of the "exteriority" of directors. In one sense, these linkages reflect an information view of the environment. They may also reflect a resource dependence view, if information is interpreted as a resource. As with several other concepts, individual linkages are aggregated for each cooperative in order to obtain a measure of board linkages. This aggregated measure of individual linkages fits more clearly into the resource dependence perspective.

Linkages are also approached on the organizational level. On this level, there are two dimensions. The first is the number of organizations in which the cooperative has membership or affiliation. This information was provided on the information sheet completed by the cooperative managers (Appendix B).

The second measure of organizational linkages is derived by summing the number of professionals and consultants hired by the board. This admittedly indirect measure of linkages is intended as a proxy measure of "external or outside" directors. Since cooperatives are prohibited from having voting nonmembers on their boards, hired professionals and consultants might serve in some capacity in lieu of "outside" directors. These business professionals and consultants include the following: auditor, attorney, business management consultant and "other business professionals" specified by the manager.

### Traditionalism

Traditionalism is measured by responses to a single statement: "Cooperatives should function according to the traditional principles of cooperation." Directors were asked to respond to this statement on a five-point scale ranging from one (strongly agree) to five (strongly disagree). Several other attitudinal questions were intended to measure traditionalism, but these items produced very low inter-item correlations and reliability coefficients. This single item was adopted as



the best measure of traditionalism because it refers to the best known ideology of cooperatives: the traditional (Rochdale) principles of cooperation. While some directors might not be able to cite these principles, it is unlikely that any have not heard reference to them.

### Competition

Competition within trade area is assumed to increase director uncertainty and organizational linkages. However, competition was operationalized on the organizational level only. The managers of each cooperative were asked to indicate (1) the number of cooperative competitors within their trade area and (2) the number of noncooperative competitors within their trade area. Level of competition thus corresponds to the actual numbers provided by the managers. Cooperative and non-cooperative competitors are kept distinct as two separate measures of competition. It is a resource dependence idea that competition might increase uncertainty. It is also assumed that competition might increase the perception of uncertainty, although perceptions may be less important in a highly competitive market (Aldrich and Pfeffer, 1976:92).

### Organizational Type and Structure

Type is operationalized by distinguishing the rural electric from the grain elevator cooperatives. Several structural concepts are also used. The first, organizational size, is measured by (1) annual dollar volume of business and (2) number of cooperative members. The second, age of the cooperative, is measured by years since incorporation. The third, tenure of manager, is the number of years the organization has been served by the current manager. These data were provided by the cooperative managers.

Uncertainty and its correlates will be examined first, on both the individual and the organizational level. Next, linkages will be examined in relation to various organizational concepts in contrast to the previous correlations with uncertainty.

## CHAPTER IV.

## DATA ANALYSIS

In this chapter, data will be presented to test relationships outlined in Chapter II. In the first section, the focus is on the correlates of two measures of uncertainty. Correlations are calculated on both the individual and the aggregate (board) level. In the second section, the focus shifts to linkages and the analysis is restricted to the organizational level.

## Uncertainty and its Correlates

Two measures of uncertainty are employed. The first is an information view which reflects the conditions which impact the ability of directors to make decisions. The second is a problem-specific approach to uncertainty. In both cases, a series of items are summed in order to obtain an overall measure. The operationalization of these concepts was discussed in the previous chapter.

The Components

The components of the two summated measures are of interest in themselves. Therefore, before analyzing overall uncertainty correlates, the individual items will be analyzed. These items are subjected to a one-way analysis of variance by type of cooperative. This serves the dual purpose of illustrating the relative importance of the components and major contrasts between the rural electric cooperatives and the grain elevator cooperatives.

Perceived Environmental Uncertainty      The questions measuring perceived environmental uncertainty were of the general form "How often does . . . affect the plans made by the board?" Respondents answered on a scale from one (never) to five (often). The sources of this type of uncertainty are listed in Table 4 in order from most to least important overall source. Sources are also listed by type of cooperative and the F statistic and the level of probability are reported. Overall,

Table 4. Components of perceived environmental uncertainty measures by type of cooperative

SOURCE OF UNCERTAINTY	GRAIN ELEVATORS		RURAL ELECTRICS		OVERALL		F	P
	$\bar{X}$	RANK	$\bar{X}$	RANK	$\bar{X}$			
Changes in government policies and regulations.	2.65	5	3.47	1	3.11	95.1	<.0001	
Need to gather information from external person or organization.	3.37	2	2.53	2	2.99	101.5	<.0001	
Rapid and unpredictable change in farm economy.	3.39	1	2.34	4	2.92	195.6	<.0001	
Rapid and unpredictable change in general economy.	3.36	3	2.37	3	2.92	182.9	<.0001	
Changes in social, economic and political conditions outside cooperative.	3.05	4	2.17	5	2.66	109.8	<.0001	
Uncertainty about results of board decisions.	2.58	6	2.01	6	2.32	66.2	<.0001	
Lack of knowledge of competitors' actions.	2.57	7	1.88	7	2.26	94.5	<.0001	

competition is perceived as having the least impact on boards' decisions; changes in government policies and regulations, the most.

The evaluations of each source by rural electric directors and grain elevator directors vary considerably. The differences are statistically significant with a high level of probability. The greatest difference concerns the impact of changes in the farm economy ( $F=195.6$ ). This question was worded unfortunately since, by their very purpose, the grain elevators would be more concerned with the farm economy. However, this source was still ranked as the fourth most salient by the directors of the rural electric cooperatives. This indicates that these

rural electric cooperatives and their directors are embedded in a farm economy, even though not as directly as the grain elevator cooperatives.

Despite the extreme difference on the individual uncertainty indicators between rural electrics and grain cooperatives, the summated uncertainty score does not differ by type of cooperative, even though in six of seven cases the grain elevator directors are more uncertain. This seeming anomaly is explained by the extreme impact which government policies and regulations appear to have on the rural electric cooperatives.

Problem-Specific Uncertainty      The cooperative directors were provided with a list of 20 potential problems and asked to rank each according to the extent to which it is currently a problem on a scale from one (no problem) to five (serious problem). These problem-specific sources of uncertainty are listed in Table 5 from most to least important overall source of uncertainty. Rankings and mean scores, obtained from a one-way analysis of variance, are also provided for each type of cooperative.

Government safety and environmental regulations top the list as the most serious problem currently faced by the cooperatives. These regulations are the most serious problem for the rural electrics and the second most serious problem for the grain elevator cooperatives. Transportation, the most serious problem currently facing the grain elevators, is ranked twelfth by the rural electric cooperatives. Transportation constitutes the most extreme difference between the two types of cooperatives. The difference is, of course, statistically significant. Ratings which differ at a statistically significant level ( $<.05$ ) between rural electrics and grain elevators are indicated by an asterisk in Table 5.

It is notable that the problems which relate to farm-specific areas (such as farm price programs and corporate control of agriculture) are ranked quite similarly by rural electric and by grain elevator directors. This further supports the argument that the rural electric

Table 5. Components of problem-specific uncertainty measure by type of cooperative

POTENTIAL PROBLEM	GRAIN ELEVATORS		RURAL ELECTRICS		OVERALL MEAN
	MEAN	RANK	MEAN	RANK	
Government Safety and Environmental Regulations	3.85	2	4.33	1	3.96*
Availability of Transportation	3.96	1	2.59	12	3.64*
National Economic Conditions	3.56	3	3.83	2	3.62*
Obtaining Energy Supplies	3.47	4	3.63	3	3.51
Changes in Enabling Legislation	3.25	5	3.44	4	3.29
Government Credit Policies	2.95	10	3.43	5	3.06*
Government Farm Price Programs	3.07	7	2.98	6	3.05
Government Production Controls	2.97	9	2.96	7	2.97
Obtaining Quality Personnel	3.00	8	2.74	10	2.94*
Competition from Noncooperatives	3.11	6	2.29	15	2.91*
Technological Changes	2.77	12	2.74	9	2.76
Public/Consumer Relations	2.61	13	2.63	11	2.61
Availability of Credit	2.53	14	2.81	8	2.60*
Competition from Cooperatives	2.80	11	1.51	20	2.49*
Corporate Control of Agriculture	2.51	15	2.35	14	2.47
Recruiting New Members	2.49	16	1.74	17	2.31
Marketing Cooperative Products	2.45	19	1.70	18	2.27*
Urban Encroachment	2.18	18	2.51	13	2.26*
Dominance by Regional Cooperatives	2.20	17	2.09	16	2.17*
Retaining Old Members	1.87	20	1.53	19	1.79

\* Indicates significant difference at .05 level or greater between rural electric cooperative and grain elevator cooperatives.

cooperatives and their directors are embedded in a rural, farm-based social and economic environment.

When the 20 uncertainty rankings are summed, the directors of the rural electric cooperatives score significantly ( $p=.033$ ) higher on uncertainty. This contrasts with the previous information-related view of uncertainty in which the directors of the grain elevator cooperatives were somewhat (although not significantly) more uncertain.

### Uncertainty and Linkages

Individual level linkages consist of memberships which individual directors have in (1) general farm organizations, (2) farm commodity organizations, (3) cooperatives, and (4) local, nonagricultural organizations, such as civic, political, educational, social and fraternal organizations. Past and present directorships of cooperative and non-cooperative organizations is also included as another measure of linkages. Two measures of organizational linkages are also used: (1) cooperative organizational memberships and affiliations and (2) business professionals and consultants hired by the board.

The effect of organizational type will be controlled throughout the data analysis. However, before proceeding, some key differences between rural electric and grain elevator cooperatives will be reviewed. These differences are revealed in a one-way analysis of variance by type of cooperative. First of all, the directors of the rural electric cooperatives have more board experience than the directors of the grain elevator cooperatives. Second, the directors of the rural electric cooperatives also have more individual organizational linkages. This is interesting because it was mentioned earlier that the list of commodity organizations in the questionnaire might bias the total number of linkages in favor of the grain elevator directors. In fact, the directors of the rural electrics have more total memberships in farm commodity organizations. This is understandable when it is recognized that all but two of the directors of the rural electrics are farmers earning at least 75 percent of their income from farming.

Third, on the organizational level, the grain elevators have more cooperative organizational memberships whereas the rural electrics hire more business professionals and consultants. Furthermore, the rural electrics have managers with greater tenure and are much more likely to have formal plans and procedures for communicating with members. Although type of cooperative will be taken into account throughout the data analysis, these differences should be kept in mind.

Perceived Environmental Uncertainty      Zero-order correlations are calculated between perceived environmental uncertainty (the first measure) and linkages on three levels: the individual level, the board level, and the organizational level. The board level consists largely of individual level data aggregated by cooperative. First-order partial correlations are also calculated controlling for type of cooperative.

Individual Director Linkages      In addition to "organizational linkages" in which the four categories listed above are summated (general farm organizations, farm commodity organizations, cooperatives, and local, nonagricultural organizations), three additional correlates include (1) board experience--past and present directorships in cooperative and noncooperative organizations; (2) cooperative memberships--a subset of organizational linkages; and (3) local, nonagricultural organizational memberships--another subset of organizational linkages.

The two subsets--coop memberships and local, nonagricultural organization memberships--are weakly associated with perceived environmental uncertainty. Board experience appears unrelated. The summated measure (organizational linkages) is more strongly associated with perceived environmental uncertainty. The correlations are provided in Table 6. Controlling for type in the first-order partial correlations does not appreciably alter the associations. The direction of the associations is such that linkages are positively associated with uncertainty. Thus the hypothesis is not supported; in fact, the reverse is true. Individual linkages and the first measure of uncertainty are positively correlated.

Board Linkages Perceived environmental uncertainty and the individual measures of linkages are aggregated by board and the same relations are tested using zero-order correlations and first-order partials, controlling for type. Only the total linkages measure (organizational linkages) and board experience are aggregated. Once again, board experience is not related to perceived environmental uncertainty. The positive correlation between perceived uncertainty and organizational linkages holds on the aggregated level. And once again, controlling for type of cooperative does not appreciably alter the relation. The correlation coefficients are higher, but the probability is lower, which reflects the smaller n.

Cooperative Linkages Cooperative linkages consist of external organizational connections. Two measures are used. The first consists of the memberships which cooperatives have in other organizations; the second consists of the sum of external professionals and consultants employed by the board. This measure assumes that while cooperative boards may not legally have "outside" directors, the uncertainty reducing function of "outside" directors might be filled by auditors, attorneys or other business professionals who might be hired by the board. Only the first measure--cooperative organizational memberships--is significantly associated with the first measure of uncertainty (Table 6). As with the individual linkages, organizational (cooperative) linkages are associated with greater uncertainty--opposite of the direction hypothesized.

Problem-Specific Uncertainty Identical zero-order and first-order partial correlations are calculated for the problem-specific measure of uncertainty. The resulting correlations and their levels of significance are also reported in Table 6.

Individual Director Linkages All of the measures of individual linkages have statistically significant zero-order correlations with problem-specific uncertainty. Controlling for type through the first-order partial correlations has little impact on these correlations. The correlations are stronger than those obtained with the



Table 6. Summary of zero-order correlations and first-order partial correlations (controlling for type) between measures of uncertainty and linkages

LINKAGES	PERCEIVED ENVIRONMENTAL UNCERTAINTY		PROBLEM SPECIFIC UNCERTAINTY	
	ZERO-ORDER	FIRST-ORDER	ZERO-ORDER	FIRST-ORDER
INDIVIDUAL LINKAGES				
Directors (n=443)				
1. Organizational Linkages	r = .132 p = .003	r = .131 p = .004	r = .225 p = .001	r = .217 p = .001
2. Board Experience	ns <sup>a</sup>	ns	r = .134 p = .005	r = .114 p = .016
3. Coop Memberships	r = .084 p = .046	r = .081 p = .051	r = .260 p = .001	r = .247 p = .001
4. Local Nonagricultural Organizations	r = .092 p = .049	r = .091 p = .052	r = .148 p = .008	r = .139 p = .011
Boards (n=117)				
1. Organizational Linkages	r = .191 p = .022	r = .193 p = .022	r = .355 p = .001	r = .320 p = .001
2. Board Experience	ns	ns	r = .297 p = .001	r = .227 p = .009
COOPERATIVE LINKAGES (n=117)				
1. Coop Memberships	r = .127 p = .09	r = .171 p = .036	ns	ns
2. Employed Professionals	ns	ns	ns	ns

<sup>a</sup>Nonsignificant.

previous measure of uncertainty. Their direction is consistent with the previous measures, such that problem-specific uncertainty is positively associated with individual director linkages. Once again, the direction of the association that was hypothesized does not hold.

Board Linkages As with the previous measure of uncertainty, problem-specific uncertainty is aggregated by board. Zero-order and first-order partial correlations are calculated for this aggregate measure of uncertainty and the aggregate linkage measures. This procedure yields the strongest correlations yet obtained--somewhat stronger for organizational linkages than for board experience. The relation holds, at a slightly lower magnitude, after controlling for type.

Cooperative Linkages Neither cooperative organizational affiliations and memberships nor the external professionals employed by the boards are associated with the aggregated measure of problem-specific uncertainty.

Summary of Linkage Correlates Both measures of uncertainty are correlated with the measures of linkages, but in an opposite direction than expected. Linkages are associated with greater uncertainty. The problem-specific measure is a more concrete assessment of uncertainty and this may be the reason for the stronger correlations. However, such an interpretation is largely speculative. It should be noted that the correlations are of a weak magnitude (the strongest of all is .35). The general low magnitude of the correlation coefficients will place some constraints on the interpretation of the data.

#### Uncertainty and Competition

The cooperative managers provided estimates of the number of cooperative and noncooperative competitors with which their cooperative is involved. Competition is measured on only the organizational level. Zero-order correlations between two levels of competition and the two measures of uncertainty are extremely small (Table 7). First-order partial correlations, controlling for type, are likewise quite insignificant. Thus, the second hypothesis that level of competition will be

positively related to uncertainty does not hold; there appears to be no notable relation between perceptions of uncertainty and level of cooperative competition.

#### Uncertainty and Size

The cooperative managers also provided information on annual dollar volume of business and number of cooperative members. These two figures are used as measures of size. Correlations are calculated on the organizational level so as to control for possible bias introduced by the large variance in number of directors per cooperative if the analysis were conducted with the individual as the unit of analysis.

The correlations of the size measures with the first measure of uncertainty are insignificant (Table 7). A negative zero-order correlation between dollar volume of business and problem-specific uncertainty is reduced considerably after controlling for type. The zero-order correlation between number of members and problem-specific uncertainty is quite small but increases after controlling for type of cooperative. Problem-specific uncertainty is greatest in cooperatives with fewer members. However, these correlations are weak and should be interpreted with caution.

#### Uncertainty and Traditionalism

Traditionalism was measured by a single item on a Likert-type scale. Directors were asked to respond to the statement: "Cooperatives should function according to the traditional principles of cooperation." Correlations are insignificant in the case of the first measure of uncertainty, but significant in the case of problem-specific uncertainty (Table 7). The direction of the relation is such that uncertainty is associated with low levels of traditionalism. In this case, the expected relation was obtained. However, the correlations are of a quite weak magnitude.

The correlates of two measures of uncertainty have been examined. Both are perceptual measures derived from individual level attitudinal data. Generally, individual but not organizational linkages are

Table 7. Zero-order and first-order partial correlations (controlling for type) between measures of uncertainty and competition, size and traditionalism

CORRELATE	PERCEIVED ENVIRONMENTAL UNCERTAINTY		PROBLEM- SPECIFIC UNCERTAINTY	
	ZERO-ORDER	FIRST-ORDER	ZERO-ORDER	FIRST-ORDER
Competition				
Cooperative Competitors	.029	.039	-.066	.041
Independent Competitors	.035	.038	-.055	-.016
Size				
Dollar Volume of Business	.025	.033	.042	.031
Number of Members	-.056	-.081	.029	-.14
Traditionalism (Should cooperatives function according to the tra- ditional principles?)	-.01	-.007	-.099* p=.031	-.119 p=.012

\*Levels of probability reported only for those correlations significant at the .05 level or less.

associated with uncertainty. Perceptions of uncertainty correlate slightly with traditionalism, but not at all with organizational measures of competition and size.

In the next section, the analysis shifts from the perceptual to the organizational plane. Correlates of linkages will be examined on the organizational level. At this point, it is assumed that linkages have advantages for the organization as outlined by the resource dependence perspective, independent of the reduction in the perception of uncertainty.

## Cooperative Linkages and Correlates

In this section, linkages are viewed as an organizational attribute--a property of the organization, not directors. Correlates will be examined for three types of linkages: (1) board member organizational linkages; (2) cooperative organizational linkages; and (3) cooperative external linkages. Board member organizational linkages consist of individual director organizational memberships and affiliations. Cooperative organizational linkages consist of organizational memberships and affiliations of the cooperative. Cooperative external linkages consist of business professionals and consultants employed by the board. These measures are identical to the linkages measures used in the previous section of the data analysis.

### Zero-Order Correlations

Zero-order correlations are calculated first between the three measures of linkages--board member organizational linkages, cooperative organizational linkages and cooperative external linkages--and seven organizational variables. These variables include: type of cooperative, tenure of manager, age of cooperative (years since incorporation), number of members of cooperative, annual dollar volume of business of cooperative, number of cooperative competitors, and number of independent competitors. The results are discussed below according to the linkage measure.

Board Member Organizational Linkages This linkage measure is an aggregate of individual directors' organizational memberships and affiliations. It is essentially the same measure used previously. The zero-order correlations between this linkage measure and the seven organizational variables are provided in Table 8. At the organizational level, then, type of cooperative is significantly associated with board linkages. The rural electric cooperative boards have the greatest number of organizational linkages. Volume of business and number of independent competitors are correlated at a weaker magnitude, in a negative direction. The remaining correlations are negligible.

Cooperative Organizational Linkages      This linkage measure consists of the number of other organizations with which the cooperative has membership or affiliation. Tenure of manager (years with cooperative) and type of cooperative are strongly correlated with cooperative organizational memberships and affiliations (Table 8). The direction of the relation is such that cooperatives with fewer years of manager tenure have considerably more organizational connections. Grain elevators also have more organizational memberships and affiliations than do the rural electric cooperatives. In a word, they are better integrated. Remember, however, that as individuals, the rural electric directors are better integrated. Number of cooperative members is negatively associated with this measure of linkages (the fewer members, the more connections).

Number of cooperative competitors and, to a lesser degree, the number of independent competitors is positively (and significantly) correlated with linkages, as is volume of business. Age of cooperative (years since incorporation) is negatively associated. Although the relationship is somewhat weak, younger cooperatives tend to have more linkages. Younger cooperatives would include new organizations formed outright and new organizations resulting from merger or consolidation. All seven of the organizational variables which are specified are significantly associated with this measure of linkages.

Cooperative External Linkages      Cooperative external linkages consist of the number of professionals and other business consultants employed by the board. Tenure of manager and age of cooperative show fairly strong, negative correlations with this measure, i.e., newer cooperatives with newer managers have the most linkages (Table 8). Both correlations are negative. Number of cooperative members and annual dollar volume of business are positively correlated. Cooperatives with the most cooperative competitors also have more linkages. Type is moderately associated with this measure of linkages. In this case, however, the rural electric cooperatives have more external linkages.

Table 8. Zero-order correlations between three linkage measures and organizational attributes

CORRELATE:	BOARD LINKAGES	COOPERATIVE ORGANIZATIONS	COOPERATIVE EXTERNAL LINKS
Volume of Business	r = -.154 n = 110 p = .053	.319 110 .001	.216 110 .011
Number of Members	r = -.075 n = 100 p = .228	-.415 100 .001	.370 100 .001
Age of Cooperative	r = .084 n = 108 p = .192	-.174 108 .035	-.317 108 .001
Tenure of Manager	r = .028 n = 106 p = .388	-.619 106 .001	-.439 106 .001
Type of Cooperative	r = .256 n = 110 p = .003	-.614 110 .001	.174 110 .033
Cooperative Competition	r = .045 n = 94 p = .331	.408 94 .001	.259 94 .005
Independent Competition	r = -.164 n = 95 p = .054	.205 95 .022	.130 95 .101

Of the seven variables, only the number of independent competitors does not correlate with linkages at a statistically significant level.

### First-Order Correlations

Next, first-order correlations are calculated for the same variables. Type of cooperative is extracted from these correlations. This is done primarily because, on the individual level, type is a strong determinant of individual linkages. It seems that this relation may hold on the organizational level. The correlations will be analyzed in the same order as before.

Board Member Organizational Linkages      Controlling for type increases the strength of the relationship between number of cooperative members and number of cooperative competitors. However, it decreases the relationship between number of independent competitors and linkages and between volume of business and linkages. The remaining two variables--age of cooperative and tenure of manager--are changed very little by controlling for type (Table 9).

Cooperative Organizational Linkages      After controlling for the effect of type of organization, tenure of manager becomes even more important. The relationship between age of cooperative and this measure of linkages also increases in importance. The relationship between cooperative competitors and linkages is greatly reduced, but still statistically significant. The correlations between linkages and volume of business, number of members, and independent competitors are reduced considerably and are no longer significant. Several of these relationships appear to have been a function of type of cooperative (Table 9).

Cooperative External Linkages      Tenure of manager, volume of business, number of cooperative competitors and number of independent competitors all increase in importance after controlling for type. The effect of age of cooperative remains about the same and the effect of number of cooperative members decreases slightly (Table 9). In this case, type of cooperative has little confounding influence on the remaining six variables.



Table 9. First-order partial correlations (controlling for type) between three linkage measures and organizational attributes

CORRELATE:	BOARD LINKAGES	COOPERATIVE ORGANIZATIONS	COOPERATIVE EXTERNAL LINKS
Volume of Business	r = $-.062$ n = 109 p = $.261$	$.113$ 109 $.119$	$.312$ 109 $.000$
Number of Members	r = $-.299$ n = 99 p = $.001$	$-.068$ 99 $.249$	$.338$ 99 $.000$
Age of Cooperative	r = $.103$ n = 107 p = $.143$	$-.268$ 107 $.002$	$-.312$ 107 $.000$
Tenure of Manager	r = $-.015$ n = 105 p = $.438$	$-.664$ 105 $.000$	$-.482$ 105 $.000$
Cooperative Competition	r = $.184$ n = 93 p = $.037$	$.191$ 93 $.032$	$.382$ 93 $.000$
Independent Competition	r = $-.126$ n = 94 p = $.110$	$.129$ 94 $.105$	$.165$ 94 $.054$

### Multi-Variable Approach

In order to obtain a more accurate weighting on the contribution of each of the seven variables to the linkage measure in question, the seven variables are regressed on each linkage measure. Pairwise deletion of missing data is utilized because listwise deletion greatly reduced the number of observations and distorted the relations found with the original zero-order correlations. The results will be discussed in the same order as before (Table 10).

Board Member Organizational Linkages      The seven variables explain only 24 percent of the variance in board member organizational linkages. Type is the most important contributor. As noted earlier, the rural electric boards have the most linkages. Number of members, cooperative competitors, and age of cooperative also contribute somewhat. Volume of business is a function of type only. In all, this linkage measure is not well-explained by the organizational variables.

Cooperative Organizational Linkages      The seven variables explain 70 percent of the variance in this linkages measure. Tenure contributes the most, followed by type. The direction of these correlations are notable. Tenure of manager, type of cooperative, number of members, and age of cooperative are negatively associated with cooperative organizational linkages. That is, grain elevators, cooperatives with less manager tenure, with fewer members, and younger organizations have more organizational linkages. Larger volume of business and number of competitors are positively associated with cooperative organizational linkages.

Cooperative External Linkages      The seven variables combine to explain 55 percent of the variance in cooperative external linkages (number of professionals and business consultants employed by the cooperative). Although rural electrics tend to have more linkages of this sort, type contributes the least of all variables to this measure. Tenure of manager is once again the greatest contributor followed, in order, by number of members, cooperative competitors, age of cooperative, independent competitors and volume of business.

Table 10. Regression of seven organizational variables on three measures of linkages

VARIABLE	R	R <sup>2</sup>	N
Board Linkages			
Type of Cooperative	.256	.065	117
Number of Members	.385	.149	107
Cooperative Competitors	.465	.216	96
Age of Cooperative	.489	.239	115
Independent Competitors	.490	.241	97
Tenure of Manager	.491	.241	113
Volume of Business	a	a	117
Cooperative Organizational Linkages			
Tenure of Manager	.619	.383	113
Type of Cooperative	.807	.652	117
Volume of Business	.833	.694	117
Number of Members	.834	.696	107
Cooperative Competitors	.835	.697	96
Independent Competitors	.835	.698	97
Age of Cooperative	.836	.698	115
Cooperative External Linkages			
Tenure of Manager	.439	.193	113
Number of Members	.673	.452	107
Cooperative Competitors	.716	.513	96
Age of Cooperative	.729	.512	115
Independent Competitors	.735	.541	97
Volume of Business	.740	.548	117
Type of Cooperative	.743	.553	117

<sup>a</sup>F level insufficient for computation.

The seven organizational variables explain only 24 percent of the variance in board member organizational linkages. Type explains the most with the rural electric boards having the most linkages. The seven variables explain 70 percent of the variance in cooperative organizational linkages (organizational memberships and affiliations). Tenure of manager and type contribute the most. Tenure of manager also contributes the most to the explanation of cooperative external linkages. The seven variables together explain 55 percent of the variance. It will be recalled that this is the surrogate measure for "outside" directors. In the next chapter, the data presented will be interpreted.

## CHAPTER V.

## DISCUSSION

The goal of this final chapter is to summarize the empirical information presented, to draw implications from the results, and to suggest directions for further inquiry. First, the results of the correlations calculated on the individual level with the uncertainty measures and those calculated on the organizational level with the linkages measures will be reviewed. Implications of the findings for the research problem, decision making and organizational autonomy in an increasingly externally controlled environment, will be drawn. The findings will also be related to the theoretical perspectives. Finally, the need for a more comprehensive approach to the study of cooperatives and their boards of directors will be discussed. Scope must be increased in order to develop a theory of cooperatives for the 1980s (Edick et al., 1980).

## Results of the Data Analysis

In the first section of the data analysis, individual (but not organizational) linkages and, to a lesser extent, traditionalism were found to be significantly associated with two measures of uncertainty. Organizational measures, such as competition and size of cooperative, were not related to uncertainty.

The correlations were strongest in the case of the problem-specific measure of uncertainty. This measure is a more concrete approach to uncertainty and also has a higher alpha reliability coefficient than the first, information-related measure. Despite this, the measures yielded some similar results. Both measures revealed that the directors are most sensitive to government policies, regulations and legislation. Of seven sources of uncertainty, the directors overall agree that changes in government policies and regulations most often affect board decisions (Table 4). The rural electric directors are most sensitive to this aspect, perhaps because of regulations governing the siting of

power plants and power rate structures. Five of the top eight problem-specific sources of uncertainty were also related to government policies, regulations and legislation (Table 5). Government safety and environmental regulations are the single most salient overall source of uncertainty. In the case of the rural electrics, this would undoubtedly include regulations governing power plants and, in the case of grain cooperatives, regulations such as grain dust standards.

Aspects of the economy--local and national--also loom large in both approaches to uncertainty. On the other hand, competition has the least effect on board decisions. Even as a problem-specific aspect of uncertainty, competition is not rated especially highly.

Correlations were not in the hypothesized direction. Linkages were found to be associated with high levels of perceived uncertainty. The conclusion is not that linkages are dysfunctional in uncertain environments but, rather, that individual linkages are associated with greater perception of uncertainty among these cooperative directors. As acknowledged in the presentation of the theoretical hypotheses, there is a rationale for expecting the relationship discovered to obtain. And, certainly, the findings are consistent with common sense. By virtue of their exteriority--their linkages with other organizational environments--directors with the most external organizational connections have greater awareness of the complexity of their operating milieu (Mueller, 1979). While perhaps not reducing uncertainty, these linkages contribute to board knowledge and decisions.

It was seen in Chapter II that cooperatives exist in a highly uncertain environment relative to many other organizations as a consequence of factors such as organizational density, level of competition, intermediate concentration, and the volatility of the agricultural economy. According to resource dependence theory, it is advantageous for organizations in uncertain environments to form linkages with significant external organizations. By entering into transactions with other organizations, cooperatives may obtain resources that they are unable to generate internally (Aldrich and Pfeffer, 1976:83). If the task

environment of the cooperative is an interorganizational network, then resources are obtained and uncertainty is reduced through the management of crucial interdependencies.

For this reason, organizational linkages were next examined based on the belief that linkages might reduce objective uncertainty, although perhaps not the perception of uncertainty. Such a conclusion is consistent with the resource dependence view that under some conditions perceptions are not important. For example, if an organization is severely constrained by the environment, as in a very competitive market, then perceptions may be less important (Aldrich and Pfeffer, 1976:92). It is also consistent with an ecological view which would place little or no emphasis on perceptions. Although organizational variables were generally not associated with the perceptual measures of uncertainty, the assumption was retained that cooperatives exist in a highly uncertain environment and that, in keeping with resource dependence theory, organizational linkages might serve to reduce objective uncertainty.

The next step, then, was to examine organizational correlates of linkages. Board member linkages is an aggregated measure of individual director organizational memberships and affiliations. Seven variables explained only 24 percent of the variance in this measure. The greatest contributor was type of cooperative with rural electric boards having the greatest number of individual linkages.

The next two linkage measures were organizational level measures--cooperative organizational linkages (the number of memberships and affiliations which the organization has) and external board linkages (the number of business professionals and consultants hired by the cooperative). The seven variables explained, respectively, 70 percent and 55 percent of the variance in the two linkages measures. Most surprising was the contribution of tenure of manager to linkages. In both cases, tenure of manager was the greatest contributor to linkages. The direction of the relations was such that cooperatives with fewer years of manager tenure had a greater number of linkages. This relation was not a function of size or type of cooperative.

### Implications of Results for Research Problem and Theory

The research problem was how can boards make quality decisions and preserve organizational autonomy in a rapidly changing and unpredictable environment which is increasingly dominated by extra-local forces. The literature review focused on the role of the board as a boundary spanning unit, a function often filled informally in small, less complex organizations operating in homogeneous, although unstable, environments. The function of the board as a boundary spanning unit is to help the cooperative adjust to exogenous variables (Thompson, 1967).

Data support the assumption that these local cooperatives are dominated by extra-local forces and that internal considerations are less salient. For example, the first eight problems in Table 5 are clearly beyond local control. Most of the problems which are subject to local control, which are administrative concerns, or even which involve interorganizational relations are in the bottom half of the table. This supports the conclusion that the macro and aggregate environments (Osborn and Hunt, 1974)--or the causal texture (Terreberry, 1968) is becoming increasingly important, even relative to the inter-organizational field.

Linkages were found to be associated with higher uncertainty. The likely explanation is that connections with the external environment--such as with other organizations--make directors more knowledgeable and aware of the complexity of their environment and less certain, because cooperatives exist in an uncertain environment. An alternative explanation would be that individuals experiencing greater uncertainty engage in more boundary spanning activity, but that it takes time for the uncertainty reducing or absorbing function to occur.

The other correlations with uncertainty--traditionalism, size and competition--were weak or nonexistent. The size of the cooperative does not affect director perceptions of uncertainty. Competition also does not affect director perceptions of uncertainty. This is consistent with the weak contribution which competition made to each of the



uncertainty measures (Tables 4 and 5). Traditionalism was associated with less uncertainty, which supported the hypothesis. The correlation was statistically significant, but very weak, so that any interpretation is hazardous. This is even more the case since uncertainty was measured by a single item.

On the organizational level, tenure of manager was most strongly associated with linkages. Two alternative explanations for this phenomenon are apparent. First, less tenured managers may be more aggressive in their approach to management, whereas more tenured managers are more conservative. Second, and perhaps more likely, more tenured managers may have already established linkages or not need them as much as the less tenured manager who must establish linkages as a means of becoming more fully integrated into the business which he must manage. Directors may be best able to judge which explanation is most likely.

The fact that more tenured managers establish fewer linkages with the external organizational environment has implications for the performance of cooperatives and the boundary spanning activities of boards. As Osborn and Hunt (1974:235) point out, the organizational leader sets the stage for environmental interaction and the strategy he chooses, in large part, determines the interaction between the organization and the task environment. More specifically,

. . . as chief executives stress interaction with agents in the relevant environment, the probability of ascertaining accurate perceptions of environmental conditions and anticipating needed adaptation may substantially increase. . . . When the unit of analysis is the organization, it is appropriate to view interorganizational interaction in terms of the chief executive's orientation toward such interaction and to hypothesize that it is positively associated with organizational outcomes (Osborn and Hunt, 1974:236).

This interpretation is especially meaningful because boards of directors play the major role in the selection of managers.

This interpretation of the role of managers tends to support the decision making perspective. The association of perceptions of uncertainty with greater numbers of organizational memberships and

affiliations also tends to support the decision making point of view. That is, in uncertain environments, additional increments of information may increase the absolute level of uncertainty (Nystrom, 1974). However, these conclusions do not negate the resource dependence perspective. While the manager may promote and guide linkages, the linkages themselves are still of vital importance. Linkages may still reduce uncertainty, although perhaps not the perception of uncertainty. Thus, under some conditions, the resource dependence and decision making viewpoints may be reconciled.

These results should not be regarded as conclusive, but as suggestive of further inquiry. The measures of uncertainty, especially the first, more general approach, clearly stand in need of refinement and further testing before results could be conclusive. Indeed, the same must be said for all of the measures. Furthermore, the magnitude of most of the correlations was rather low. In view of these limits, and the limits of the organizational population, these findings are offered as hypotheses which might be tested in further studies of more diverse cooperatives. Clearly, it would be advantageous to determine the amount and level of linkages among cooperatives of different types, in different geographical regions and economies, and at levels beyond locals. It would also be useful to derive measures of uncertainty which would apply across several types and levels of cooperatives and between cooperative and noncooperative firms operating in the same organizational domain.

The decision making perspective alone is not sufficient because of the critical impact of external, extra-local forces in the environment that set limits to organizational discretion. In order to do this, the decision making perspective must be supplemented, for example, with the resource dependence or ecological perspective.

It was seen that control is a major administrative function of the board, but that control is being usurped by extra-local forces. Boards, then, must pay increasing attention to extra-local representation. The boundary spanning activities of boards have implications for board

decision making and cooperative survival under conditions of uncertainty. Boundary spanning activity involves costs--perhaps giving up some autonomy to win greater control over essential resources--but the loss of organizational autonomy may be necessary for organizational survival. The well-being of members may require that some autonomy is sacrificed. A rigid ideology of grass roots control may result in organizational mortality.

### Suggestions for Further Inquiry

Some support was found for the decision making and resource dependence views, but much of what the ecological perspective has to offer was beyond the scope of the present study. Scope must be increased in order to develop a theory of cooperatives for the 1980s (Edick et al., 1980). A theory of cooperatives would require that one (1) supplement cross-sectional survey data with longitudinal data; (2) focus on several levels of units of analysis--the individual, the department or division, the organization, the dyad, the organizational network, and the organizational population--among organizations of the same or varying types; (3) use diverse perspectives alone or in combination, as in the present study in which three perspectives were used which can be at least partially integrated under the general model of natural selection; and (4) study directors in relation to other elements in their immediate and task environments--managers, personnel, members and consumers.

Longitudinal data would improve the cross-sectional data which are currently available. The ecological perspective, in particular, is amenable to the analysis of the development of populations of organizations over time. In the present study, it has been assumed that change is occurring and will continue to occur. Many of the conclusions drawn are done so based on the assumption that the environment has become complex and will become increasingly complex.

This research has gone beyond the case study approach and studied a group of organizations. This is an improvement over studies of decision making within a single organization which do not permit

generalizations. Much more can be learned by studying the organization dyad, the organization network and the organization population. It is essential to move from the organizational to interorganizational measures so that relations between cooperatives of different sizes and types and between cooperatives and noncooperatives might be analyzed.

Diverse perspectives should be used alone, or in combination. In the present study, three perspectives were used which, it was claimed, could be integrated under the model of natural selection. To fully evaluate this model it would have been necessary to have more fully included the ecological dimension. This model had three elements. Variations occur through innovation and through the creation of new organizations through merger or consolidation. However, longitudinal data would be necessary to document the rate of merger or consolidation. Innovation would be more difficult to document, but estimates could be made through a series of cross-sectional studies. For selection to occur, there must be numerous variations among organizations and a high rate of mortality. A fairly high rate of mortality does exist for cooperatives, but documenting variations would require additional research. Finally, the positively selected variations must be preserved through some retention mechanism. Centralized authority of the manager, conservatism of directors and a traditional ideology might all serve as retention mechanisms. However, each of these would tend to be maladaptive in the long run because they might prevent the innovations necessary to insure future survival.

Finally, it would be helpful to study directors in relation to other key elements in their immediate, task and aggregate environments. A study conducted concurrently with managers, directors and members would reveal a great deal about roles and role expectations. Inter-organizational studies between, for example, regionals and local cooperatives would be instructive regarding dependency relations. And studies conducted with directors and with consumers would determine what directors believe the general public believes about cooperatives and what, in fact, the general public actually believes.

If current trends continue, cooperatives that survive into the next decades will be fewer in number and larger in size (French et al., 1980:236-237). They will exist in a more unstable and more heterogeneous environment. When a cooperative has nine to ten employees, its structure becomes more formal (Evers et al., 1976). As cooperatives grow in size, they are more likely to establish functionally differentiated boundary-spanning units. At such a time, some of the responsibility for boundary spanning activities may shift from informal units, such as the board, to formal units. Until then, boards will continue to fulfill a vital representative function.

Meanwhile, organizations facing uncertainty will seek to reduce or absorb it by establishing strategic linkages with the environment and thus stabilizing relations. However, independence itself can create uncertainty because of difficulties in coordinating activities (Pfeffer and Salancik, 1978:42). Interconnectedness itself may result in problems. It is paradoxical that while organizations facing uncertainty may increase interdependence, as the number of firms in an organizational field increase, the chances that interfirm linkages will improve the situation decrease. At this point, growth itself may become a strategy if it reduces the total number of linkages. The absolute level of interconnectedness may be decreased by moves such as merger and consolidation. Thus, the conditions under which linkages of themselves are of value to the organization are very situational.

Increasing organizational interconnectedness and environmental complexity appears to be a likely forecast for cooperatives. In terms of the future of cooperatives, French et al. (1980:236-237) forecast the following: fewer, but larger local cooperatives; the same number, but larger centralized regional cooperatives; fewer, but larger federated regional cooperatives; more and larger mixed-type cooperatives; more and larger interregional cooperatives; and more joint ventures. If such a forecast is accurate, then many locally owned and managed rural cooperatives will not survive.

The cooperatives that will survive may have to sacrifice a degree of local organizational autonomy. To a large extent, much control is already exercised extra-locally. The well-being of members may take precedence over local, grass-roots control. A rigid ideology of grass roots control will most likely result in the demise of the organization. At least in the short run, the board of directors of local cooperatives will chart a critical course for their organizations.

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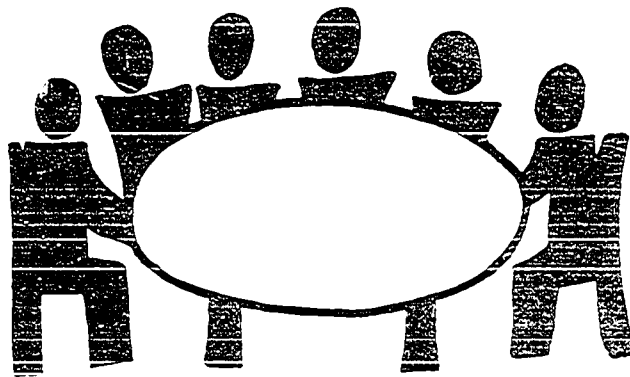
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APPENDIX A

.

SURVEY OF BOARD MEMBERS  
OF  
IOWA COOPERATIVES



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BASED ON YOUR EXPERIENCE, RANK THE FOLLOWING FACTORS WHICH MIGHT BE CONSIDERED BY MEMBERS WHEN THEY ELECT COOP DIRECTORS. (RANK FROM 1 TO 6 IN ORDER OF IMPORTANCE.)

RANK ORDER:      SELECTION CRITERIA:

\_\_\_\_\_ Experience in Business/Financial Affairs  
 \_\_\_\_\_ Success at Farming  
 \_\_\_\_\_ Participation in Community Organizations  
 \_\_\_\_\_ Ability to Enhance Membership Confidence  
 \_\_\_\_\_ Knowledge of Marketing and Supply Channels  
 \_\_\_\_\_ Participation in Regional or State Level Organizations

IN TODAY'S ECONOMIC, SOCIAL AND POLITICAL CLIMATE, THE MOST VALUABLE ASSETS FOR THIS COOPERATIVE ARE . . . . (PLEASE RANK FROM 1 TO 6 IN ORDER OF IMPORTANCE.)

\_\_\_\_\_ Strong central management  
 \_\_\_\_\_ Political clout  
 \_\_\_\_\_ Affiliation with regional cooperatives  
 \_\_\_\_\_ Membership in coop organizations (such as the Cooperative League, the Iowa Institute, etc.)  
 \_\_\_\_\_ Large size  
 \_\_\_\_\_ Flexibility in operations

FOR EACH OF THE MANAGERIAL AND ADMINISTRATIVE TASKS LISTED BELOW, PLEASE INDICATE WHERE YOU BELIEVE THE MAIN RESPONSIBILITY RESTS BY CIRCULING THE APPROPRIATE NUMBER FOR EACH.

<u>TASKS:</u>	RESPONSIBILITY LIES PRIMARILY WITH:				
	<u>BOARD</u>	<u>MOSTLY BOARD</u>	<u>EVENLY DIVIDED</u>	<u>MOSTLY MANAGER</u>	<u>MANAGER</u>
PLANNING--making policy decisions for the future to ensure achievement of goals	1	2	3	4	5
ORGANIZING--matching work and people under the best possible arrangements	1	2	3	4	5
DIRECTING--giving personal leadership and guidance to day-to-day activities	1	2	3	4	5
COORDINATING--combining limited resources to ensure team work and unity of purpose	1	2	3	4	5
CONTROLLING--seeing whether established plans are followed and goals attained	1	2	3	4	5

16 POSSIBLE COOPERATIVE GOALS ARE LISTED BELOW. SELECT WHAT YOU BELIEVE ARE THE FIVE MOST IMPORTANT GOALS FOR YOUR COOP AND PLACE THE NUMBERS OF EACH IN THE BLANKS PROVIDED. THEN SELECT THE LEAST IMPORTANT GOAL.

_____ MOST IMPORTANT GOAL	1. To increase the sales volume.
_____ 2nd MOST IMPORTANT	2. To achieve a "smooth running" operation with harmonious working relations and satisfied employees
_____ 3rd MOST IMPORTANT	3. To maximize the income of patron members.
_____ 4th MOST IMPORTANT	4. To obtain the best possible returns on investments.
_____ 5th MOST IMPORTANT	5. To maintain flexibility in operations.
_____ LEAST IMPORTANT	6. To make a satisfactory net savings each year
	7. To maintain present policies and practices to avoid risk.
	8. To achieve maximum operational efficiency.
	9. To serve members by providing a policing type of competition to other agribusiness firms.
	10. To increase the area served by this cooperative.
	11. To update the facilities of this cooperative.
	12. To maximize net savings of this cooperative.
	13. To provide products and service at the lowest price.
	14. To be a business leader in the area.
	15. To build a good public image for the cooperative.
	16. To provide product information.

HOW OFTEN DO YOU CONSULT WITH OR USE THE FOLLOWING SOURCES OF INFORMATION IN BOARD PLANNING AND DECISION-MAKING? (Circle number from 1 to 5 for each source listed below.)

<u>SOURCE OF INFORMATION:</u>	<u>NEVER</u>			<u>OFTEN</u>	
ATTORNEY	1	2	3	4	5
REGIONAL COOPERATIVES	1	2	3	4	5
EXTENSION SERVICE	1	2	3	4	5
OTHER UNIVERSITY SOURCE(S)	1	2	3	4	5
BANK FOR COOPERATIVES (Farm Credit Administration)	1	2	3	4	5
FARMER COOPERATIVE SERVICE (FSCS)	1	2	3	4	5
MEMBERSHIP CONTACTS	1	2	3	4	5
IOWA INSTITUTE OF COOPERATION	1	2	3	4	5
DATA AND REPORTS PROVIDED BY MANAGEMENT	1	2	3	4	5
PERIODICALS (Wallace's Farmer, Wall Street Journal, etc.)	1	2	3	4	5
AMERICAN INSTITUTE OF COOPERATION	1	2	3	4	5
NEWSPAPERS	1	2	3	4	5
RADIO OR TELEVISION	1	2	3	4	5
OTHER(S) (What?): _____	1	2	3	4	5
_____	1	2	3	4	5

THE PROBLEMS LISTED BELOW MAY AFFECT YOUR COOP NOW AND IN THE FUTURE. INDICATE THE EXTENT TO WHICH EACH FACTOR IS CURRENTLY A PROBLEM BY CIRCLING A NUMBER ON A SCALE FROM 1 TO 5. NEXT, INDICATE WHETHER YOU EXPECT EACH FACTOR TO BECOME LESS PROBLEMATIC (-), TO REMAIN THE SAME (0), OR TO BECOME MORE PROBLEMATIC (+) IN THE FUTURE BY CIRCLING THE APPROPRIATE SYMBOL.

POTENTIAL PROBLEMS:	NO PROBLEM					SERIOUS PROBLEM	FUTURE PROBLEM?		
Public/consumer relations	1	2	3	4	5		-	0	+
Competition from other cooperatives	1	2	3	4	5		-	0	+
Competition from noncooperative businesses	1	2	3	4	5		-	0	+
Dominance by regional cooperatives	1	2	3	4	5		-	0	+
Obtaining energy supplies	1	2	3	4	5		-	0	+
Availability of transportation	1	2	3	4	5		-	0	+
Recruiting new coop members	1	2	3	4	5		-	0	+
Retaining old coop members	1	2	3	4	5		-	0	+
Obtaining quality personnel	1	2	3	4	5		-	0	+
Marketing cooperative products	1	2	3	4	5		-	0	+
Technological changes	1	2	3	4	5		-	0	+
Urban encroachment	1	2	3	4	5		-	0	+
Corporate control of agriculture	1	2	3	4	5		-	0	+
National economic conditions	1	2	3	4	5		-	0	+
Changes in coop enabling legislation	1	2	3	4	5		-	0	+
Availability of credit	1	2	3	4	5		-	0	+
Government legislation related to . . .									
. . . farm price programs	1	2	3	4	5		-	0	+
. . . production controls	1	2	3	4	5		-	0	+
. . . credit policies	1	2	3	4	5		-	0	+
. . . environmental and safety regulations	1	2	3	4	5		-	0	+

WHAT ARE THE TWO MOST SERIOUS PROBLEMS CURRENTLY FACING YOUR COOP? (Be specific)

(1) \_\_\_\_\_

(2) \_\_\_\_\_

WHAT DO YOU BELIEVE WILL BE THE TWO MOST SERIOUS PROBLEMS CONFRONTING YOUR COOP IN THE NEXT TEN YEARS? (Be as specific as possible)

(1) \_\_\_\_\_

(2) \_\_\_\_\_



THE NEXT PAGES CONTAIN STATEMENTS RELATED TO COOPERATIVE PRINCIPLES, DECISIONS AND OPERATIONS, AND RELATIONS WITH MEMBERS AND MANAGEMENT. PLEASE INDICATE WHETHER YOU (SA) STRONGLY AGREE, (A) AGREE, (U) UNDECIDED, (D) DISAGREE, OR (SD) STRONGLY DISAGREE WITH EACH STATEMENT BY CIRCLING THE APPROPRIATE LETTER(S) TO THE RIGHT.

Cooperative Principles

- |  |    |   |   |   |    |
|--|----|---|---|---|----|
| 1. Cooperatives should function according to the traditional principles of cooperation.                              | SA | A | U | D | SD |
| 2. A cooperative's first responsibility is to make as much profit as possible.                                       | SA | A | U | D | SD |
| 3. All things considered, there is really not much difference between cooperatives and competing noncooperatives.    | SA | A | U | D | SD |
| 4. More emphasis should be placed on growth of a cooperative than on service to members.                             | SA | A | U | D | SD |
| 5. Cooperatives must engage in both supply and marketing in order to survive in today's economic environment.        | SA | A | U | D | SD |
| 6. Public relations activities and responsibilities are as necessary for cooperatives as for profit type businesses. | SA | A | U | D | SD |
| 7. Cooperative members should be given the same treatment regardless of their volume of patronage.                   | SA | A | U | D | SD |
| 8. The bigger a cooperative gets, the less responsive it is to members' needs.                                       | SA | A | U | D | SD |
| 9. As cooperatives increase in size, they become less responsive to members from smaller farms.                      | SA | A | U | D | SD |
| 10. Small scale farmers don't really benefit cooperatives.   | SA | A | U | D | SD |
| 11. Larger farm operations benefit more from cooperatives than smaller ones.   | SA | A | U | D | SD |
| 12. Larger members contribute more to the success of this cooperative than small members.                            | SA | A | U | D | SD |
| 13. Any qualified person should be eligible for directorship whether he/she is a farmer or not.                      | SA | A | U | D | SD |
| 14. A director should not be allowed to serve consecutive terms.   | SA | A | U | D | SD |
| 15. There should be a limit on the number of terms a person can serve as a director.                                 | SA | A | U | D | SD |
| 16. Members should have some special skill or knowledge to nominated for a directorship.                             | SA | A | U | D | SD |
| 17. Knowledge about business is more important for successful directorship than knowledge about farming.             | SA | A | U | D | SD |
| 18. It is absolutely essential for a cooperative to have strong central management.                                  | SA | A | U | D | SD |
| 19. It is not as important for directors to have knowledge about business as for managers.                           | SA | A | U | D | SD |
| 20. Management should be held more responsible for cooperative performance than the board.                           | SA | A | U | D | SD |

Cooperative Decision Making

- |   |    |   |   |   |    |
|---|----|---|---|---|----|
| 1. Board meetings very often involve debate on issues viewed differently by the board and management.               | SA | A | U | D | SD |
| 2. Boards should make all important final decisions, not management.  | SA | A | U | D | SD |
| 3. This board has considerable knowledge about the cooperative's strengths and weaknesses.                          | SA | A | U | D | SD |
| 4. This board rarely ever changes or modifies management's decisions or proposals.                                  | SA | A | U | D | SD |
| 5. This board is always in control of the cooperative.  | SA | A | U | D | SD |
| 6. Directors of this cooperative represent a wide diversity of business experience.                                 | SA | A | U | D | SD |
| 7. This board bases its appraisal of cooperative affairs largely on data and reports provided by management.        | SA | A | U | D | SD |
| 8. It is a general policy of this board to refer major issues to members before making a final decision.            | SA | A | U | D | SD |
| 9. My views sometimes conflict with the board as a whole.   | SA | A | U | D | SD |
| 10. The only time this board makes an important decision is during a crisis.  | SA | A | U | D | SD |
| 11. Board meetings are usually smooth and harmonious.   | SA | A | U | D | SD |
| 12. Most directors of this cooperative do not raise questions concerning issues which they do not understand.       | SA | A | U | D | SD |
| 13. Most directors of this cooperative work hard to stay well informed about the operations of the cooperative.     | SA | A | U | D | SD |
| 14. I always voice my opinions at board meetings even if they are not popular with other board members.             | SA | A | U | D | SD |
| 15. Most directors of this cooperative take an active part in introducing new ideas.                                | SA | A | U | D | SD |
| 16. This board is unanimous on nearly all decisions.  | SA | A | U | D | SD |
| 17. Conflicting views and opinions should be aired at board meetings.   | SA | A | U | D | SD |
| 18. Disagreement and differences of opinion among board members may result in better decisions for the cooperative. | SA | A | U | D | SD |
| 19. Board members with similar interests and beliefs help the cooperative to operate more effectively.              | SA | A | U | D | SD |

Relations with Management and Members

- |   |    |   |   |   |    |
|---|----|---|---|---|----|
| 1. This board has complete confidence in its management.  | SA | A | U | D | SD |
| 2. There is an open atmosphere of mutual consultation between management and the board in this cooperative. | SA | A | U | D | SD |

- |  |    |   |   |   |    |
|--|----|---|---|---|----|
| 3. It would be quite difficult for this board to discharge a manager who has not performed well.                                       | SA | A | U | D | SD |
| 4. This board gives management support even on ideas on which there is disagreement.   | SA | A | U | D | SD |
| 5. In this cooperative there is a great deal of informality between management and the board.  | SA | A | U | D | SD |
| 6. In this cooperative, management and board desire to work together but have fundamental differences on how to achieve a common goal. | SA | A | U | D | SD |
| 7. Most directors of this cooperative tend to get more friendly than is necessary with management.                                     | SA | A | U | D | SD |
| 8. This board does not review member complaints since this is strictly a management matter.  | SA | A | U | D | SD |
| 9. All members should be able to submit their complaints directly to the board without going through management.                       | SA | A | U | D | SD |
| 10. Most directors of this cooperative try to discuss cooperative affairs informally with individual members.                          | SA | A | U | D | SD |

THE NEXT QUESTIONS ARE ABOUT CONDITIONS AFFECTING PLANNING AND DECISION-MAKING. PLEASE INDICATE HOW OFTEN THESE CONDITIONS ARE EXPERIENCED BY CIRCLING THE APPROPRIATE NUMBER ON A SCALE FROM 1 to 5 TO THE RIGHT OF EACH QUESTION.

- |   | <u>NEVER</u> |   |   |   |   | <u>OFTEN</u> |  |  |  |  |
|---|--------------|---|---|---|---|--------------|--|--|--|--|
|   | 1            | 2 | 3 | 4 | 5 |              |  |  |  |  |
| 1. How often are there changes in the social, economic and political conditions outside your cooperative which directly affect board decisions? | 1            | 2 | 3 | 4 | 5 |              |  |  |  |  |
| 2. How often do you believe that the information you have about the factors outside your cooperative is sufficient for decision-making?         | 1            | 2 | 3 | 4 | 5 |              |  |  |  |  |
| 3. How often do you need to gather information from some person or organization outside your cooperative in order to make a decision?           | 1            | 2 | 3 | 4 | 5 |              |  |  |  |  |
| 4. How often do you feel uncertain about the results of board decisions?  | 1            | 2 | 3 | 4 | 5 |              |  |  |  |  |
| 5. How often are the plans made by the board affected by changes in government policies and regulations?  | 1            | 2 | 3 | 4 | 5 |              |  |  |  |  |
| 6. How often are the plans made by the board affected by lack of knowledge of competitors' actions?   | 1            | 2 | 3 | 4 | 5 |              |  |  |  |  |
| 7. How often are board plans affected by rapid and unpredictable change in the farm economy?  | 1            | 2 | 3 | 4 | 5 |              |  |  |  |  |
| 8. How often are board plans affected by rapid and unpredictable change in the general economy?   | 1            | 2 | 3 | 4 | 5 |              |  |  |  |  |
| 9. How often are board decisions affected by having <u>too much</u> information that must be considered?  | 1            | 2 | 3 | 4 | 5 |              |  |  |  |  |
| 10. How often are board decisions affected by inputs from coop members?   | 1            | 2 | 3 | 4 | 5 |              |  |  |  |  |

Attitudes toward Agriculture, Politics, and Community and Public Relations

- |  |    |   |   |   |    |
|--|----|---|---|---|----|
| 1. Most public officeholders are somewhat familiar with cooperatives and usually support them with their votes.                      | SA | A | U | D | SD |
| 2. Cooperatives should have political action committees.   | SA | A | U | D | SD |
| 3. Most people have very little knowledge about the role that cooperatives play in the agricultural economy.                         | SA | A | U | D | SD |
| 4. Cooperatives represent enough voters to make political action committees unnecessary at any level of government.                  | SA | A | U | D | SD |
| 5. Most people in this community support this cooperative.   | SA | A | U | D | SD |
| 6. An individual farmer can usually make better farm management decisions than a group of farmers or some agency.                    | SA | A | U | D | SD |
| 7. The solution of the agricultural problem is going to depend upon each farmer giving up a part of his independence.                | SA | A | U | D | SD |
| 8. Farmers must stick together in order to get things done even if they have to give up some of their individual freedom.            | SA | A | U | D | SD |
| 9. A basic cause of the agricultural problem today is that too many farmers go their separate ways without regard for other farmers. | SA | A | U | D | SD |
| 10. Most local people are unaware of the contribution this cooperative makes to the local community.                                 | SA | A | U | D | SD |

Attitudes toward Director Liability

- |   |    |   |   |   |    |
|---|----|---|---|---|----|
| 1. The legal standards imposed on directors are generally not spelled out in the statutes, but are established by court decisions.                    | SA | A | U | D | SD |
| 2. Courts may hold directors personally liable for actions taken by management under power delegated to them by the board.                            | SA | A | U | D | SD |
| 3. Failure to attend board meetings would not be considered an act of negligence.   | SA | A | U | D | SD |
| 4. Notice of special meetings need not be given to directors.   | SA | A | U | D | SD |
| 5. A majority of the directors have the right to remove one of their own members.   | SA | A | U | D | SD |
| 6. All securities laws place personal responsibility and liability on the directors if there are violations of the securities law.                    | SA | A | U | D | SD |
| 7. Directors may be held liable for failing to obtain from their treasurer a statement of the financial condition of the cooperative at each meeting. | SA | A | U | D | SD |
| 8. Directors, so long as they act in good faith, are not precluded from engaging in a business similar to that carried on by their cooperative.       | SA | A | U | D | SD |

THIS PAGE CONTAINS QUESTIONS ABOUT YOUR EXPERIENCE AS A DIRECTOR AND BACKGROUND QUESTIONS FOR STATISTICAL PURPOSES.

1. For how many years have you served as a director of this coop? \_\_\_\_\_ years
2. What is the length of a term on your cooperative board? \_\_\_\_\_ years
3. For how many years have you been a member of this cooperative? \_\_\_\_\_ years
4. What is your present age? \_\_\_\_\_ years
5. Are you currently a board member in another coop? (Circle number)

1 YES

2 NO → If NO, have you ever been a board member in another cooperative? (Circle number)

1 NO

2 YES → If YES, in how many different coops? \_\_\_\_\_

6. In which of the following types of director training have you participated? (Circle numbers of all that apply)

1 WORKSHOPS OR SHORT COURSES AT LOCAL LEVEL

2 WORKSHOPS OR SHORT COURSES AT REGIONAL OR STATE LEVEL

3 ORIENTATION PROGRAM FOR NEW DIRECTORS

4 EXPERIENCE AS JUNIOR BOARD MEMBER

5 SOME OTHER FORM OF DIRECTOR TRAINING (what?): \_\_\_\_\_

7. What is your primary occupation? (Circle number)

1 FARMING

2 COOPERATIVE MANAGER

3 MANAGER OF OTHER BUSINESS

4 OTHER OCCUPATION (what?): \_\_\_\_\_

8. If you farm, please answer the following questions:

NUMBER OF ACRES OWNED: \_\_\_\_\_

NUMBER OF ACRES OPERATED: \_\_\_\_\_

TOTAL YEARS FARMING EXPERIENCE: \_\_\_\_\_

PROPORTION OF TOTAL NET INCOME FROM FARMING (Circle number below):

1 LESS THAN 25 PERCENT

2 25 TO 50 PERCENT

3 51 TO 75 PERCENT

4 76 TO 100 PERCENT

9. To which of these farm organizations do you belong? (Circle all numbers that apply)

- 1 IOWA FARM BUREAU FEDERATION
- 2 IOWA FARMERS UNION
- 3 IOWA GRANGE
- 4 NATIONAL FARMERS ORGANIZATION
- 5 OTHER GENERAL FARM ORGANIZATION (What?): \_\_\_\_\_

10. To which of the following farm commodity organizations do you belong? (Circle all numbers that apply.)

- |                             |   |
|-----------------------------|---|
| 1 IOWA DAIRY ASSOCIATION    | 6 IOWA TURKEY FEDERATION                        |
| 2 IOWA CATTLEMEN'S ASSN.    | 7 IOWA CORN GROWERS ASSOCIATION                 |
| 3 IOWA PORK PRODUCERS ASSN. | 8 IOWA STATE VEGETABLE GROWERS ASSN.            |
| 4 IOWA SOYBEAN ASSOCIATION  | 9 OTHER COMMODITY ASSOCIATION(S) (What?): _____ |
| 5 IOWA POULTRY ASSOCIATION  |   |

11. Are you currently a board member in any organization other than a coop? (Circle number)

1 YES

2 NO → If NO, have you ever been a board member in any organization other than a coop? (Circle number)

1 NO

2 YES → If YES, in how many different organizations? \_\_\_\_\_

12. Have you ever or do you now hold a management position in another organization, other than your own farming operation? (Circle number)

1 NO

2 YES

13. To how many different cooperatives do you currently belong? \_\_\_\_\_

14. What is the highest level of formal education that you have completed? (Circle number)

- 1 LESS THAN HIGH SCHOOL GRADUATE
- 2 HIGH SCHOOL GRADUATE
- 3 SOME COLLEGE
- 4 COLLEGE GRADUATE

15. To how many local (nonagricultural) organizations do you belong? (Include civic, political, educational, social, and fraternal organizations)

\_\_\_\_\_ organizations

SOME QUESTIONS ABOUT YOUR ATTITUDES TOWARD THE IOWA INSTITUTE OF COOPERATION, ITS ACTIVITIES, AND FUTURE PROGRAMS AND SERVICES ARE LISTED BELOW.

1. Please rank the three program areas of the Iowa Institute listed below according to the value of each for your cooperative. Assign the number 1 to the most valuable activity, 2 to the second most valuable, and 3 to the third most valuable activity.

\_\_\_\_\_ EDUCATIONAL ACTIVITIES FOR MEMBERS, MANAGERS, AND DIRECTORS

\_\_\_\_\_ PUBLIC RELATIONS ACTIVITIES

\_\_\_\_\_ LEGISLATIVE AND POLITICAL REPRESENTATION ACTIVITIES

2. Some services provided and activities performed by the Iowa Institute are listed. In the space provided, please rate each activity or service on a scale from 1 to 5 according to its value to your cooperative by circling the appropriate number.

<u>Activity or Service:</u>	<u>Less Valuable</u>			<u>More Valuable</u>	
NOVEMBER ANNUAL MEETING	1	2	3	4	5
SEPTEMBER DISTRICT MEETING	1	2	3	4	5
WINTER MANAGER/DIRECTOR WORKSHOP	1	2	3	4	5
COOP-A-GRAM AND LEGISLATIVE BULLETIN	1	2	3	4	5
COLLECTION OF COOPERATIVE LITERATURE	1	2	3	4	5
ANNUAL COOP MONTH PROMOTION	1	2	3	4	5
YOUTH PROGRAMS	1	2	3	4	5
POLITICAL REPRESENTATION (NATIONAL LEVEL)	1	2	3	4	5
POLITICAL REPRESENTATION (STATE LEVEL)	1	2	3	4	5

3. For each of the following statements about the Iowa Institute, indicate whether you (SA) Strongly Agree, (A) Agree, are (U) Undecided, (D) Disagree or (SD) Strongly Disagree by circling the appropriate response to the right of the statement.

- a. Membership in the Iowa Institute creates a more stable and predictable environment for this coop. SA A U D SD
- b. Membership dues for the Iowa Institute are too high. SA A U D SD
- c. Nonmember coops benefit as much from the activities of the Iowa Institute as do member cooperatives. SA A U D SD

4. How would you rate the overall performance of the Iowa Institute? (Circle number)

- 1 EXCELLENT  
2 GOOD  
3 FAIR  
4 POOR

5. Any other programs or activities you would like to see provided by the Iowa Institute?

PLEASE FEEL FREE TO ADD ANY ADDITIONAL COMMENTS IN THE SPACE PROVIDED BELOW. WE'RE INTERESTED IN YOUR OPINIONS ABOUT THE TOPICS COVERED IN THE QUESTIONNAIRE AS WELL AS COOPERATIVE AFFAIRS AND ISSUES IN GENERAL.

THANK YOU FOR YOUR HELP



APPENDIX B

THE FOLLOWING ARE GENERAL QUESTIONS ABOUT YOUR COOPERATIVE. IF YOU DO NOT HAVE EXACT ANSWERS, PLEASE PROVIDE YOUR BEST ESTIMATE. IF SOME QUESTIONS ARE NOT APPLICABLE TO YOUR TYPE OF COOPERATIVE, PLEASE INDICATE THIS.

1. In what year was this cooperative first incorporated? \_\_\_\_\_
2. In what year were you hired? \_\_\_\_\_
3. What was the total annual dollar volume of business during the last completed fiscal year? \_\_\_\_\_
4. Approximately what percentage of business was conducted with nonmembers? \_\_\_\_\_
5. What is the total number of members that belong to this cooperative? \_\_\_\_\_
6. Does this cooperative have branch facilities? (Circle number)

1 NO

2 YES → If YES, how many? \_\_\_\_\_

→ How were they acquired? (Circle all numbers that apply):

- 1 PURCHASE OF EXISTING FACILITIES
- 2 MERGER WITH ANOTHER ORGANIZATION
- 3 CONSOLIDATION
- 4 CONSTRUCTED BY COOPERATIVE
- 5 RENTED
- 6 SOME OTHER WAY (How?): \_\_\_\_\_

7. With which of the following community organizations, regional cooperatives, and cooperative organizations does this cooperative have membership or business affiliation? (Circle all numbers that apply)

- |                          |  |
|--------------------------|--|
| 1 MIDLAND                | 9 IOWA GRAIN AND FEED ASSOCIATION            |
| 2 FARMLAND (FARM ARCO)   | 10 CHAMBER OF COMMERCE OR COMMERCIAL CLUB    |
| 3 LAND O'LAKES           | 11 IOWA ASSOCIATION OF ELECTRIC COOPERATIVES |
| 4 UNITED PURCHASERS      | 12 IOWA PETROLEUM DEALERS ASSOCIATION        |
| 5 BOONE VALLEY           | 13 IOWA INSTITUTE OF COOPERATION             |
| 6 AGRI-INDUSTRIES (FGDA) | 14 AMERICAN INSTITUTE OF COOPERATION         |
| 7 COOPERATIVE LEAGUE     | 15 IOWA CHEMICAL AND FERTILIZER ASSOCIATION  |
| 8 BANK FOR COOPERATIVES  | 16 OTHER(S) (List below): _____              |

(Questions continue on reverse)

8. Does your cooperative have a nominating committee for board elections? (Circle number)

- 1 NO -----> If NO, go on to Question 9  
2 YES -----> If YES, answer 8a and 8b

a. HOW IS THIS COMMITTEE SELECTED? (Circle number)

- 1 APPOINTED BY BOARD  
2 ELECTED BY MEMBERS  
3 APPOINTED BY MANAGER  
4 SOME OTHER WAY (How?): \_\_\_\_\_

b. WHO SERVES ON THIS COMMITTEE? (Circle all that apply)

- 1 DIRECTORS  
2 MEMBERS  
3 MANAGEMENT  
4 OTHER (Who?): \_\_\_\_\_

9. Next, we need information on all board committees which were in existence on July 1, 1979. Below please provide (1) the name of each committee; (2) the year it was established; (3) a brief statement of its purpose; and (4) the organizations and/or occupations represented by any committee members who are not also members of your cooperative.

	<u>COMMITTEE NAME</u>	<u>YEAR ESTABLISHED</u>	<u>COMMITTEE PURPOSE</u>	<u>ORGANIZATIONS AND/OR OCCUPATIONS REPRESENTED BY NON-COOP MEMBERS</u>
1)	_____	_____	_____	_____
			_____	_____
2)	_____	_____	_____	_____
			_____	_____
3)	_____	_____	_____	_____
			_____	_____
4)	_____	_____	_____	_____
			_____	_____

(If others, please list on a separate sheet of paper)

10. How many other cooperative businesses with similar major product lines or marketing commodities are operating in your trade area? \_\_\_\_\_
11. How many other independent businesses with similar major product lines or marketing commodities are operating in your trade area? \_\_\_\_\_
12. In the last five years, has the number of organizations competing for your members' business . . . (circle number)
- 1 INCREASED
  - 2 REMAINED ABOUT THE SAME
  - 3 DECREASED
12. In the last five years, has the level of competition in your trade area . . . (circle number)
- 1 INCREASED
  - 2 REMAINED ABOUT THE SAME
  - 3 DECREASED
13. Which of the following business professionals and consultants have been employed by the board during the last year? (Circle all numbers that apply):
- 1 AUDITOR
  - 2 ATTORNEY
  - 3 BUSINESS MANAGEMENT CONSULTANT
  - 4 INVESTMENT CONSULTANT
  - 5 BUILDING CONSULTANT
  - 6 OTHER BUSINESS PROFESSIONAL(S) (Please specify): \_\_\_\_\_
- \_\_\_\_\_
14. Has your cooperative been part of a merger or consolidation in the past 10 years? (Circle number)
- 1 NO
  - 2 YES
15. In the past 10 years, has membership in this cooperative . . . (circle number)
- 1 INCREASED
  - 2 REMAINED ABOUT THE SAME
  - 3 DECREASED

(Questions continue on reverse)

16. Has this cooperative faced any product shortages during the last five years? (Circle number)

1 NO

2 YES -----> If YES, how did the coop deal with the shortage(s)? (Circle the numbers of all that apply)

1 SOUGHT ALTERNATIVE SUPPLIERS

2 CUSTOMER RATIONING ACCORDING TO PREVIOUS PURCHASES

3 CUSTOMER RATIONING ACCORDING TO SIZE OF FARM

4 SPREAD OUT USE OF PRODUCT(S) DURING THE DAY

5 SOLD PRODUCT(S) IN SHORT SUPPLY TO COOPERATIVE MEMBERS ONLY

6 RAISED PRICES OF PRODUCT(S) IN SHORT SUPPLY

7 OTHER WAY(S) (Please list in space provided below):

---

---

---

17. Does your board of directors have established procedures for communicating with members? (Circle number)

1 NO

2 YES

18. Does your cooperative have a formal, established procedure for communicating with members? (Circle number)

1 NO

2 YES

19. Has the board of directors established a formal, written set of plans for the cooperative (other than a budget)? (Circle number)

1 NO

2 YES

20. Any additional comments?

APPENDIX C

Iowa State University of Science and Technology Ames, Iowa 50011



Department of Sociology and Anthropology  
303 East Hall  
Telephone: 515-294-6481

June 14, 1979

Dear Board Member:

As we approach the 1980s, directors of rural cooperatives are facing complex decision-making situations because of rapid change in the farm and nonfarm sectors of our economy. We believe that the boards of directors will play a vital role in assuring the long term survival of their coops. Despite the numerous and diverse responsibilities delegated to the directors of rural Iowa cooperatives, we know little about their beliefs and attitudes. In an effort to learn more about directors and how they view the changes facing their coops, we are undertaking a study of boards of directors in cooperation with the Iowa Institute of Cooperation.

As a major part of this study, questionnaires are being distributed to the board members of a sample of 127 Iowa cooperatives. Your cooperative was among those selected from a list provided by the Iowa Institute of Cooperation. Each of the directors of your cooperative has been invited to participate in the study. Your decision to participate is voluntary. However, in order that the results will be truly representative, it is important that we receive responses from each individual in the sample.

We encourage you to complete the questionnaire. It should take approximately 30 minutes. When finished, please fold it lengthwise and mail in the enclosed return envelop as soon as possible. Be assured that your responses will be treated confidentially. Your name will not be placed on the questionnaire and the data will never be released in any way that would identify individuals. The identification number on the questionnaire is necessary so that we can check your name off the mailing list when your questionnaire is returned.

We appreciate your assistance. Your diligence in completing the questionnaire is vital to the success of this research. If you have any questions, please feel free to contact Dr. John L. Tait, Extension Sociologist (294-6481) or Ms. Betty Wells, Graduate Research Assistant (294-1481).

Sincerely yours,

John L. Tait  
Extension Sociologist and  
Professor of Sociology

Betty L. Wells  
Graduate Research  
Assistant

JLT/bw

Enc.

Iowa State University *of Science and Technology* Ames, Iowa 50011



Department of Sociology and Anthropology  
303 East Hall  
Telephone: 515-294-6481

July 20, 1979

Dear Coop Manager:

We have recently initiated a study of boards of directors of a sample of Iowa cooperatives. Your cooperative was among those selected from a list provided by the Iowa Institute of Cooperation. Each of the directors of your coop has been invited to participate in the study and has received a questionnaire to complete and return.

There were a number of questions which we did not ask the directors because of limited space on the questionnaire and the redundancy involved in acquiring identical answers from each director. However, these answers are needed for the successful completion of the study. It would be a great help if you would provide this information by completing and returning the enclosed information sheet.

The form should take only a few minutes to complete. In cases where you do not have exact answers, please provide your best estimate. When finished, please fold and mail in the enclosed return envelope.

Your participation is voluntary. However, your answers are essential if the results of the study are to truly represent Iowa coops. Be assured of the complete confidentiality of your answers. The data obtained from the study will not be used in any way that would identify individuals or cooperatives. The identification number on the form is necessary so that we can check your cooperative off the mailing list when the form is returned.

We appreciate your assistance. If you have any questions, please contact Dr. John L. Tait, Extension Sociologist (294-6481) or Ms. Betty Wells, Graduate Research Assistant (294-1481).

Sincerely yours,

John L. Tait  
Extension Sociologist and  
Professor of Sociology

Betty L. Wells  
Graduate Research Assistant

Enc.

dms



Iowa State University *of Science and Technology* Ames, Iowa 50011



July 26, 1979

Department of Sociology and Anthropology  
303 East Hall  
Telephone: 515-294-6481

Dear Board Member:

About a month ago, we wrote to you seeking your opinion on a number of cooperative issues and about your role and responsibilities as a director of a rural Iowa cooperative. As of today, we have not yet received your completed questionnaire.

We undertook this study because we believe that directors serve a vital role in insuring the effectiveness of their cooperatives and that there is a need to learn more about the attitudes, beliefs and concerns of the individuals who formulate policy and set cooperative directions. We are writing to you again because of the significance of each questionnaire to the usefulness of the study. For the results of the study to represent the opinions of all the directors of member coops of the Iowa Institute of Cooperation, each person in the sample must complete and return the questionnaire. The accuracy and usefulness of the study results therefore depend on you and others who have not yet responded.

We realize that you have numerous demands on your time, but we believe that the results of the study will be both informative and useful. Of course, your participation in the study is voluntary. However, we encourage you to take the time (about 30 minutes) to complete the questionnaire. In case you have misplaced or did not receive the original questionnaire, a duplicate is enclosed together with a return, postage paid envelope.

Again, be assured that your responses will be treated with complete confidentiality. If you have any questions, please contact Dr. John L. Tait (address and telephone above) or Ms. Betty L. Wells, Research Associate (294-8368).

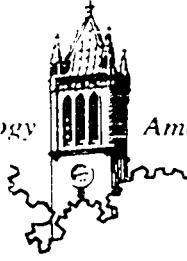
Your cooperation is greatly appreciated.

Sincerely yours,

John L. Tait  
Extension Sociologist and  
Professor of Sociology

Betty L. Wells  
Research Associate

Iowa State University *of Science and Technology* Ames, Iowa 50011



August 23, 1979

Department of Sociology and Anthropology  
103 East Hall  
Telephone: 515-294-6480

Dear Coop Manager:

About a month ago we wrote to you asking you to provide information about your cooperative to supplement our study of boards of directors of Iowa cooperatives. We have not yet received your completed information sheet.

The response by the managers of the cooperatives included in our sample is very encouraging. But, the accuracy of our profile of boards of directors now depends on you and the other managers who have not yet responded. The background data which you would provide is critical to our statistical analysis.

If you have misplaced or did not receive the original information sheet, a duplicate is enclosed. We encourage you to complete it and return in the enclosed postage paid envelope. Be assured that the information that you provide will be treated with complete confidentiality. Individual respondents or cooperatives will never be identified. The identification number on the information sheet allows us to keep track of the questionnaires that have been returned.

We appreciate your assistance. Your answers are essential to the success of our study. If you have any questions please contact Dr. John L. Tait, Extension Sociologist (294-6481) or Ms. Betty Wells, Research Associate (294-8368).

Sincerely yours,

John L. Tait  
Extension Sociologist and  
Professor of Sociology

Betty L. Wells  
Research Associate

Enclosures

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