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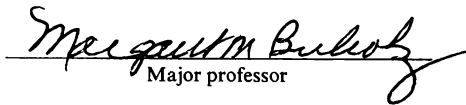
An Interpretive Study of the Interrelationship
between Human Values and Resource Management
in a Family <-> Farm Ecosystem

presented by

Margaret Conery Clifford

has been accepted towards fulfillment
of the requirements for

Ph.D. degree in Family Ecology


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AN INTERPRETIVE STUDY OF THE INTERRELATIONSHIP
BETWEEN HUMAN VALUES AND RESOURCE MANAGEMENT
IN A FAMILY<->FARM ECOSYSTEM

By
Margaret Conery Clifford

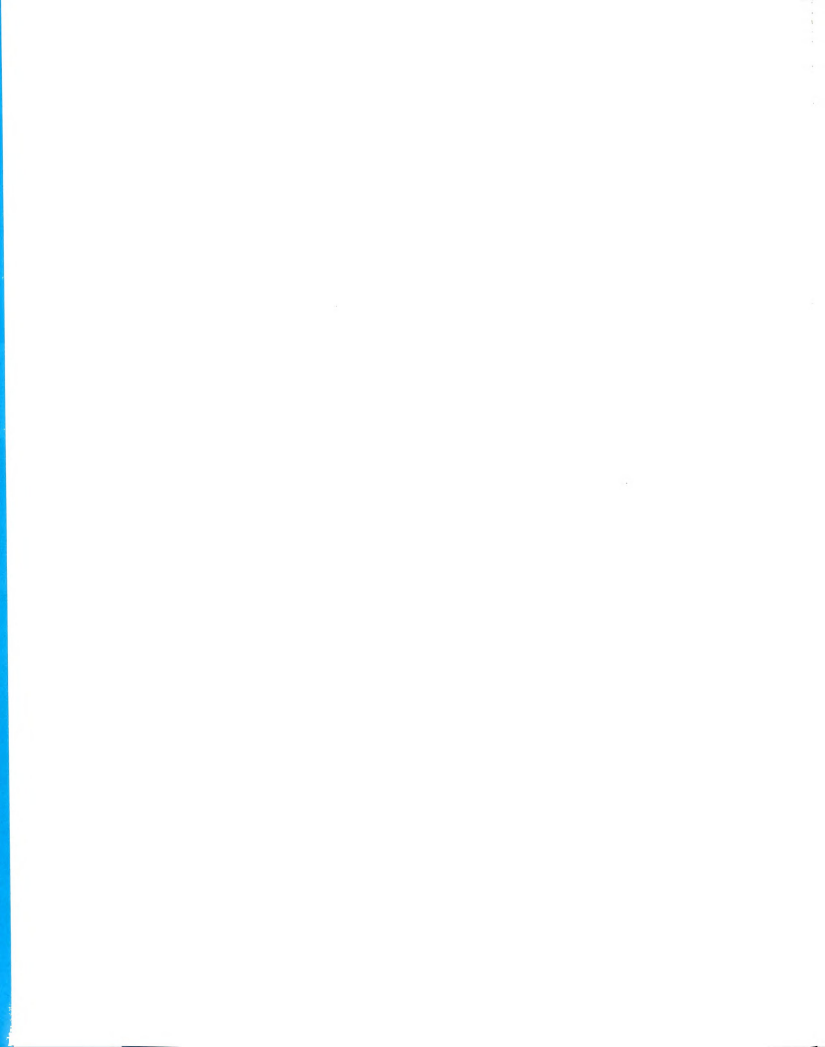
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DOCTOR OF PHILOSOPHY

Department of Family and Child Ecology

1991



ABSTRACT

AN INTERPRETIVE STUDY OF THE INTERRELATIONSHIP
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By

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The goal of this research was to develop an integrative conceptual framework of the interrelationship between human values and resource management in a family<->farm ecosystem. Relevant theoretical paradigms, (i.e., Maslow's theory of human needs; the Foas' resource exchange theory; Rescher's values theory; the target and access dimensions proposed by Kantor and Lehr; and Paolucci's integration of Deising's theory of rationality with her own perspective of decision making and resource management), were integrated within a broad ecological systems approach (Bubolz and Sontag, In Press) to facilitate analysis of data.

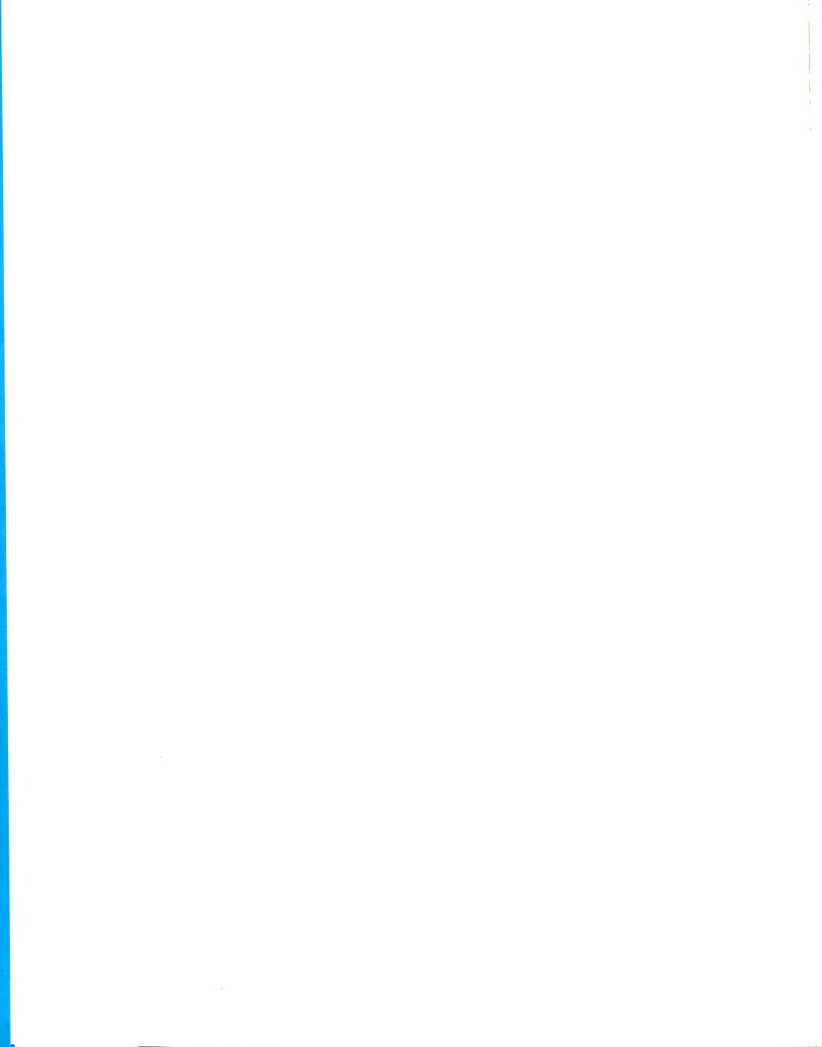
A case study of a family<->farm ecosystem was undertaken by analysis of longitudinal data from a family living on a small scale farm. The single case was part of a broader multiple case study research project aimed at understanding the relationship between technical, economic, and social performance and human factors in production and management of a small scale family farm. A portion of the data collected over a one year period from one of three farm families was analyzed. Selected portions of the data collected for the broader project were appropriate for an analysis of values and resource management content expressed in discourse and action over time. Data from the family's proposal to participate in the project, family

interviews, records, questionnaires, and other assessment tools (i.e., genogram, ecomaps, and heritage trunk) were examined. Matrices of interrelated concepts were built as part of the process of analysis. Matrices were used as an organizing and supportive framework for the development of hypotheses.

Interpretation of the data was an emergent process which resulted in the development of a framework of the interrelationship between human values and resource management. This interrelationship was conceptualized as a kaleidoscope of values, resources, resource channels, access mechanisms, and target goals. Systemic patterns of interface between values were noted in relationship to resources, target goals, and regulation of time, space, and energy resource channels and access mechanisms. Relational reciprocity between and among humans and their environment was identified according to the predominant mode of exchange within each of three conceptually distinct environments.

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To
My husband Jim and our children
Jimmy, Maggie, Katie, Annie, and Mary
for their love, inspiration, and steadfast encouragement



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It is difficult to find words that adequately acknowledge those who have provided assistance and encouragement along the road that has led to the completion of this dissertation. My heartfelt appreciation is greater than my words can express.

Dr. Margaret Bubolz introduced me to the College of Human Ecology. She encouraged me to begin this journey. She has been my advisor, the chairperson of the doctoral guidance committee, dissertation director, and co-director of the Family Systems Research Project (the source of data for this dissertation). I candidly admire and appreciate her scholarship, generosity, good humor, and exceptional wisdom. I am sincerely grateful for her excellent guidance and support.

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the Family Systems Research Project, for her thorough reading of the manuscript and suggestions for clarification and improvements. I am very grateful for her encouragement of my professional development and for her scholarly example and leadership.

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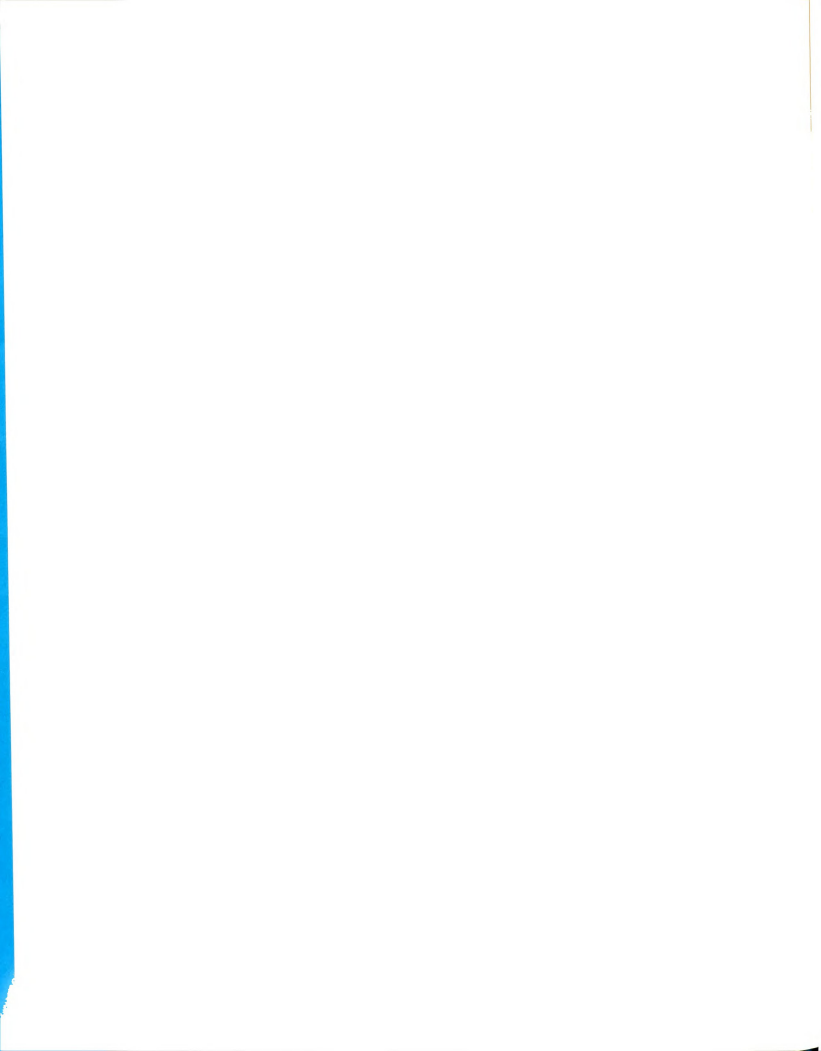
Heartfelt appreciation is extended to friends and family who have offered various kinds of support. I earnestly hope that my husband and children can somehow sense the wellspring of gratitude and appreciation that I feel for their unfailing support, love, and encouragement.

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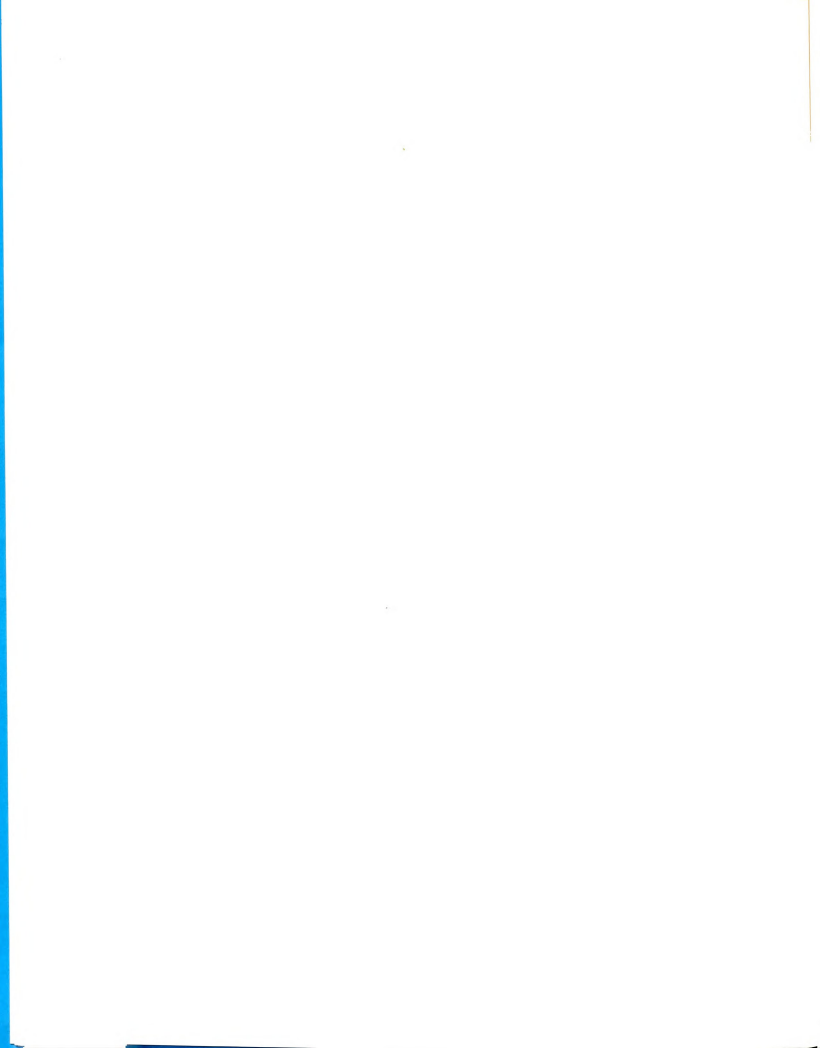
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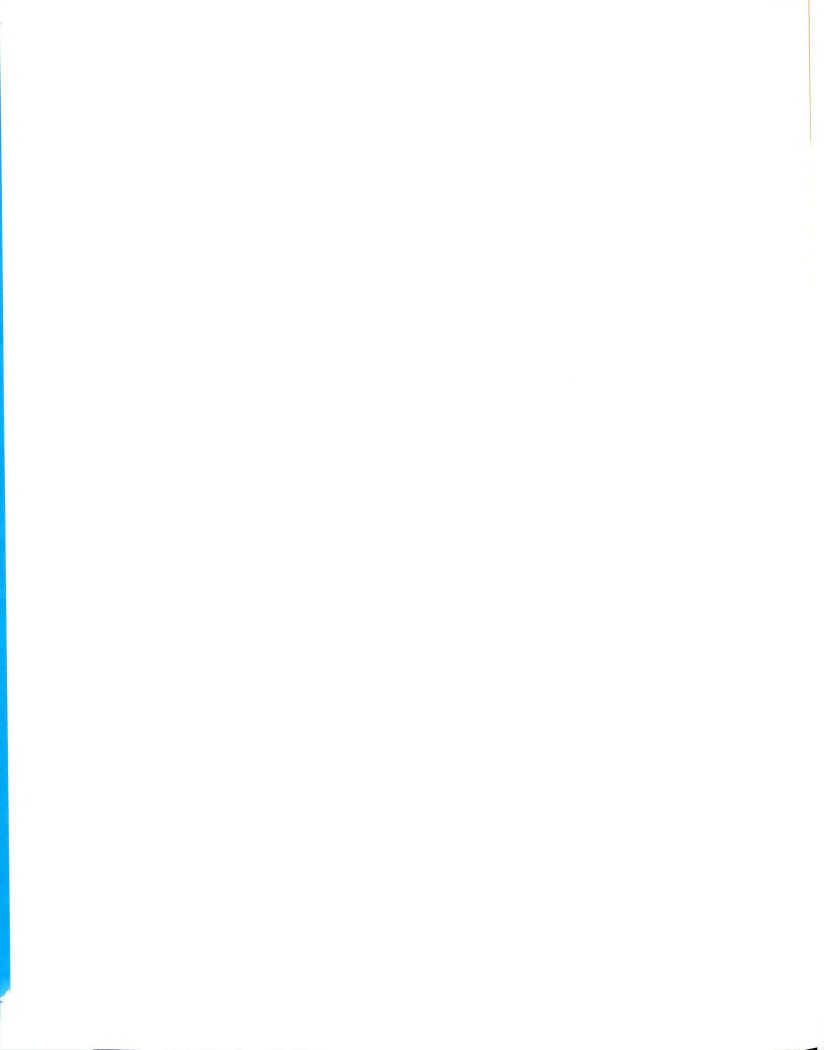
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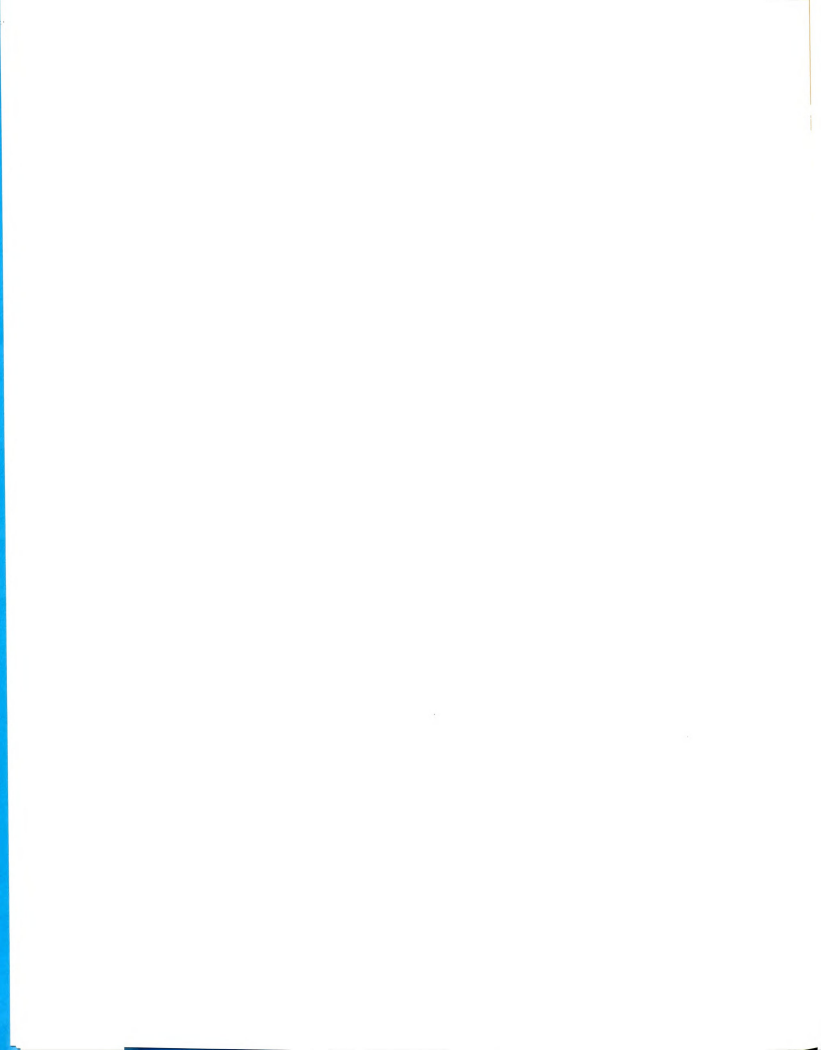
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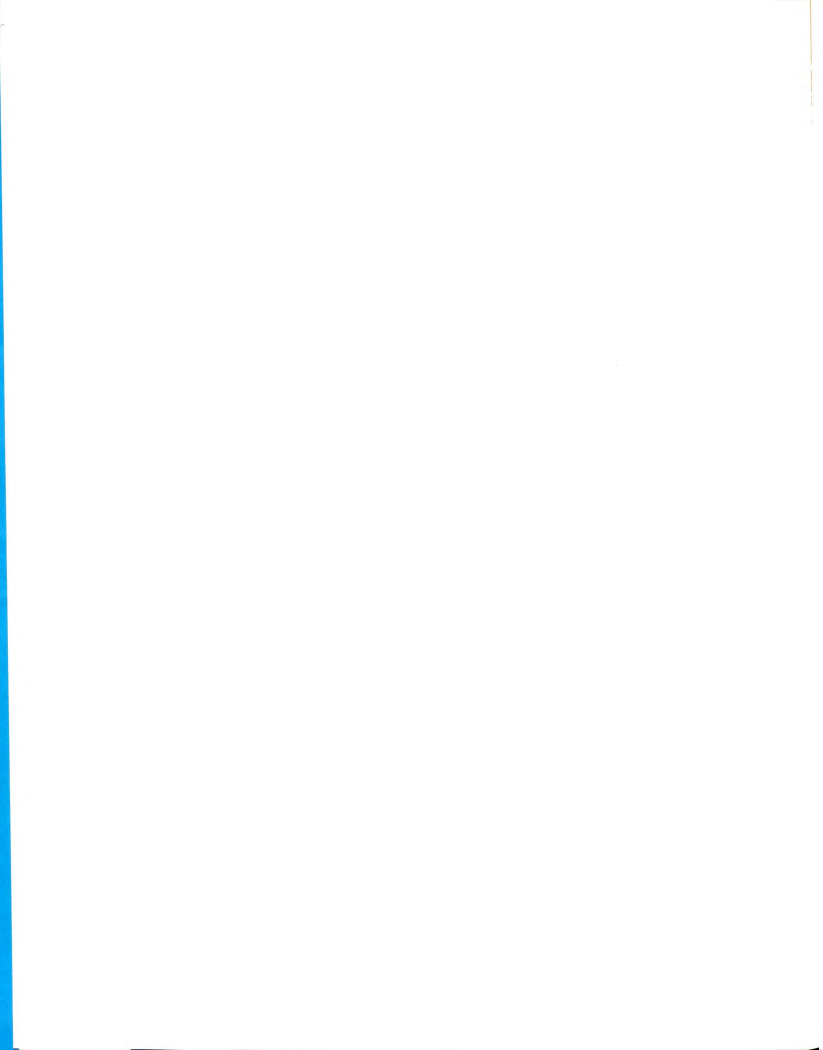


CHAPTER I

INTRODUCTION

Background and Scope of the Problem

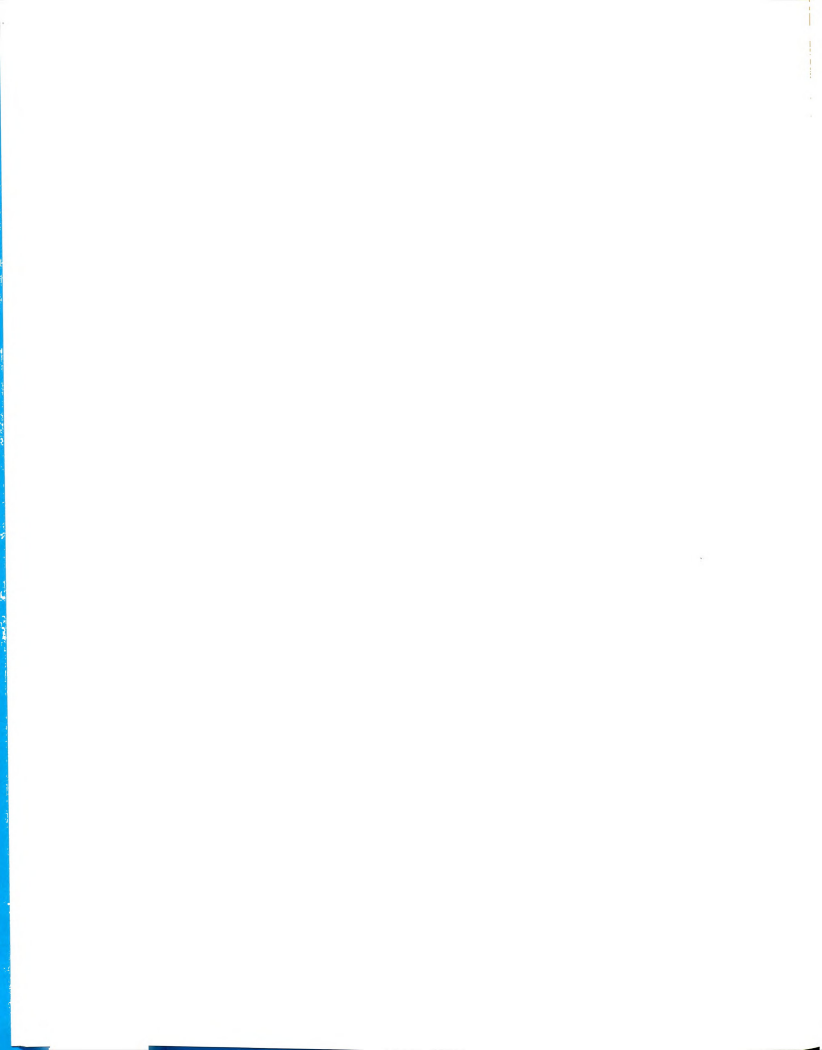
Technological changes in American society have triggered changes in occupations and lifestyles. Waves of change are clearly manifested in agriculture and in the farm and rural infrastructure of the United States. The exodus from the farm and rural life which accompanied the Industrial era reversed during the 1970's. In this decade there was a considerable increase in the number of families moving to rural areas seeking a satisfying quality of life. According to the 1981 USDA Summary Report on the Structure of Agriculture, between 1970 and 1978 about three million more people moved into rural areas than away from them. Haynes (1985) reported that in the state of Michigan the greatest increase in agriculture in terms of number of farmers was in the small farm sector. During the last two decades a growing interest in organic agriculture, the pastoral ideal of self-sufficiency, homesteading, and living and working in harmony with nature were evidenced in and promoted by many new publications. Magazines such as The Mother Earth News, Countryside, Farmstead, and a host of others as well as many new books elucidated these themes. Much of this literature depicted families living on small scale farms, in voluntary simplicity, working together



to produce food and fiber for home use and for sale at local farmers' markets and county fairs.

Historically, farming had been a family enterprise in which farm production and household management were integrated in an interdependent family farm system. Technical advancements brought about changes in farm management systems and large corporate commercial farm practices increased. The small farm, however, remained an integrated system where family members are the major decision-making body and the major workforce. Traditionally, agricultural research and educational programs had tended to focus on production methods and management strategies for specific crops or animal species. There is growing recognition that decision making about farm enterprises is influenced not only by technical and economic factors, but family member values and goals play an integral part in the management process. As suggested by Paolucci, Hall, and Axinn (1977), values influence selection of goals and assessment of alternative means for reaching desired ends. Farm family values and farm management are of particular import at this time in history when the farm lifestyle is in transition because of the massive industrialization of agriculture and the structural and social changes in rural and farm life.

In 1988 the Task Force on Agriculture and Community Viability established by The Experiment Station Committee on Organization and Policy (ESCOP), Cooperative State Research Service, recommended research that addresses family issues including values, priorities, social networks, and the ability of farm families to manage change (Zuiches et al., 1988). During the 1980's there was a surge of interest in



sustainable agriculture, regenerative farming, and the role of the small scale farm. In a presentation entitled "The Pastoral Ideal and Sustainable Agriculture," Maynard Kaufman challenged agricultural scientists to "acknowledge the non-economic (moral and aesthetic) motivations in farmers" (Kaufman in Haynes, 1985, p. 230). He urged researchers to recognize that values are an important component in farm systems investigation. In his book, entitled Home Economics, Wendell Berry points out that the family farm is not merely agricultural but political and cultural as well.

We must allow for the possibility that a family farm might be very small or marginal and that it might not entirely support the family. In such cases, though the immediate economic return might be reduced, the "values" of the family owned and family worked small farm are still available both to the family and to the nation (Berry, 1987, p. 164).

Kaufman (1985) cites Wes Jackson and Wendell Berry as outspoken supporters of the small scale farm.

Jackson (1980) argues for the farm as hearth rather than as food factory, and he hopes for an influx of ecologically minded new farmers. Berry (1981) defends the small farm because it is more diverse and complex and invites greater care from its owner (p. 221).

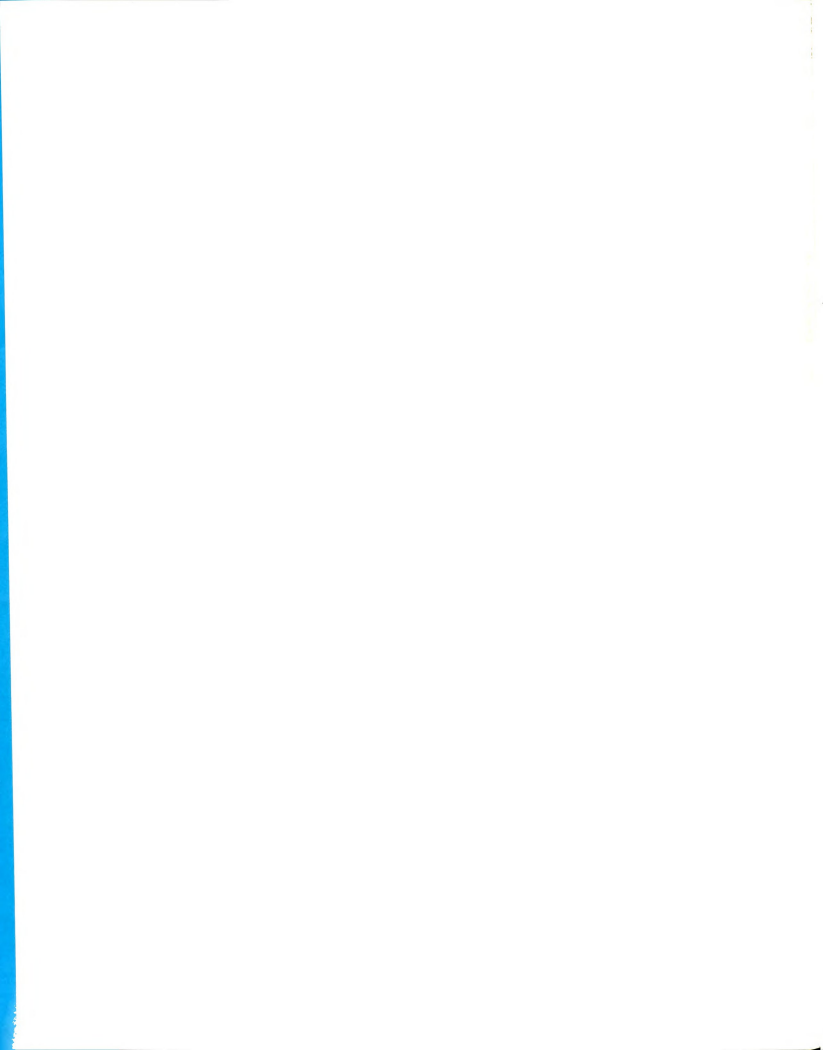
In 1981 researchers at Michigan State University also saw the need to address issues related to small scale agriculture, particularly the family issues spelled out later by the Task Force on Agriculture (1988). A comprehensive research agenda which comprised an interdisciplinary, holistic approach to study the interdependence of family and agricultural decisions was developed. Funded by the W.K. Kellogg Foundation, the total project, entitled Rural Resource Education, had several components including a Small Scale Agriculture/Rural Households

program. Researchers, M. Suzanne Sontag, Department of Human Environment and Design, and Margaret Bubolz, Department of Family and Child Ecology, College of Human Ecology, developed and managed a family systems research segment of the Small Scale Agriculture/Rural Households component.¹ The Family Systems Research Project was a process oriented approach which involved the operation of three limited acreage farms (40 acres, 20 acres, and 5 acres) by selected families who moved to the farmsites in the Fall of 1983. The families experimented with a variety of farm enterprises combined with off-farm work. They were active co-partners with the researchers, reflecting on and interpreting their farm experiences. Intensive case study data were collected over a three year period. The researchers were especially interested in how families use resources and develop strategies to achieve a satisfying quality of life within their environment. As a research assistant for the Family Systems Research Project, the author of this dissertation was specifically interested in the interrelationship between human values and resource management processes. Grounded theory methodology was used to examine relevant portions of the data collected from one of the farm families during their first year on the farm.

Purpose

The overall goal of this research study is to describe and analyze the interrelationship between human values and decisions concerning the

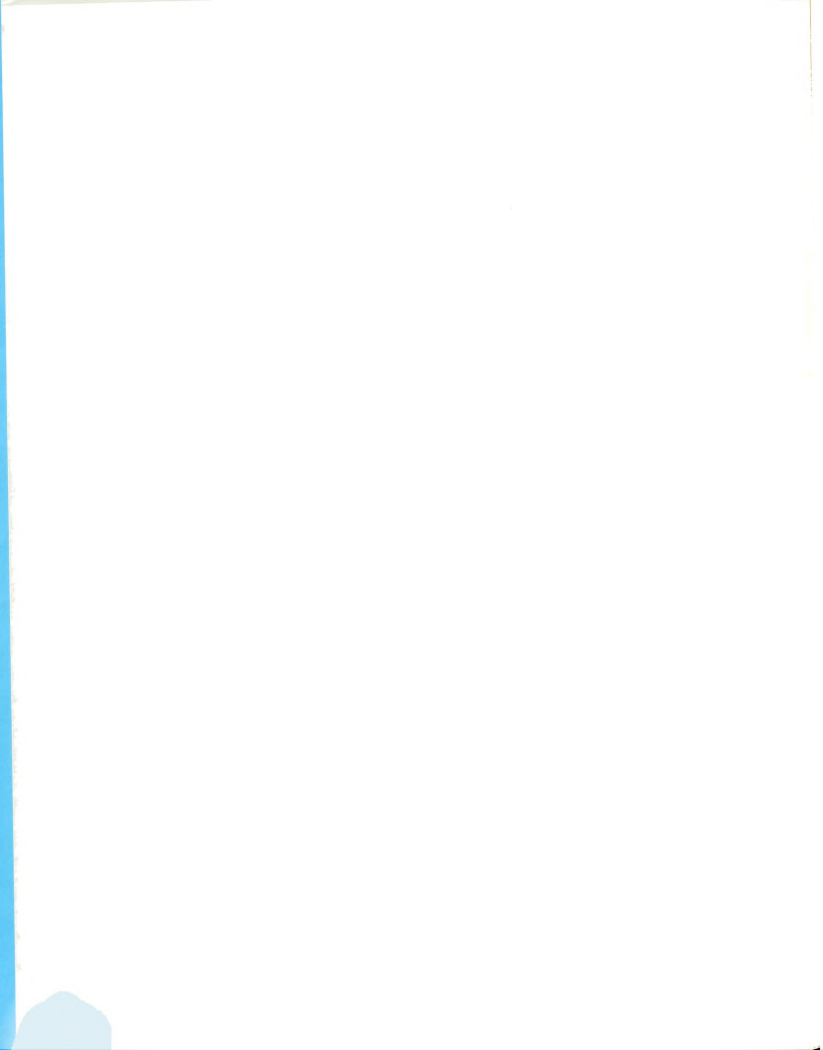
¹Research was supported by the Michigan Agricultural Experiment Station, Project 3261, "Family Adaptation to Changing Resources and Environments: Improving Quality of Life in Rural Communities." Michigan State University. East Lansing, Michigan 48824.



use of resources by a family living on a small scale farm. The behavioral patterns resulting from values have for many years offered social scientists continuous opportunity for theory development and testing. Values terminology is now prevalent in a wide range of social sciences. Psychologists, sociologists, cultural anthropologists, economists, and political scientists have been engaged in a continuous search for the core meaning of "values." Alvin Toffler (in Baier and Rescher, 1969) points out that an individual's future depends at least in part on the values fed into the decision-making process. "The future of humanity," says Toffler (1969), "depends upon how clearly we come to understand and predict changes in that complex and shifting architecture of values that regulates human behavior" (p. 5).

Today our knowledge of this invincible architecture and how it changes is primitive. What is a "value" or a "value system"? How do values relate to one another? What configurations do they form? How do they change (p. 5)?

Values are an integral component of the human ecosystem. The type of data collected over time for the Family Systems Research Project facilitates the use of an integrative ecological systems approach to assess the relationship among values, goals, resources, and decisions as they influence a total family farm system. Increased knowledge about these interrelationships is important for the development of ecological models of interaction which may be tested further in research projects extended to a larger population. It is intended that information gained from this study will contribute to the Family Systems Research Project and will be useful as part of a research base required for educational initiatives for small scale farm families.



Research Objectives

An integrative family ecological systems analysis is implemented in this study to accomplish the following objectives:

- To identify and classify the components of a family's value system in relation to basic human needs.

- To identify and classify resources, resource channels, and resource mechanisms for a family living on a small scale farm.

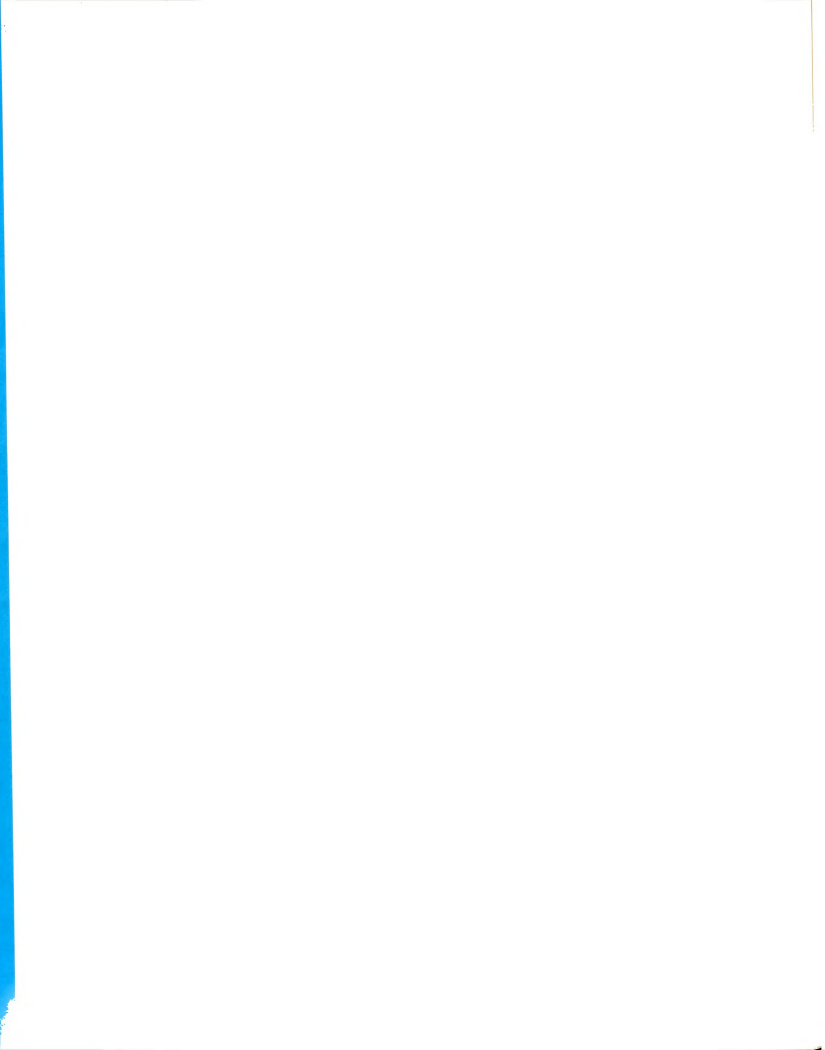
- To describe and analyze the interrelationship between a family's value system and resource management system.

- To describe and analyze the relationships among technical, economic, and social decision-making processes for a family living on a small scale farm.

- To describe and analyze the interrelationship between a family's expressed values, goals, and decision-making processes concerning location of resources.

Conceptual Framework

The overarching purpose of this research is to contribute to the development and integration of theory from systematic analysis of data and integration of various theoretical perspectives. Analysis of data is approached from a broad family ecological systems perspective which accommodate the integration of various theoretical frameworks. The family ecological systems approach is a unifying model which centers around the concept of the "whole;" interfaces and communication processes are not ignored (Bubolz, 1969). Underlying the ecological perspective is the assumption "that human beings are a part of the total



life system and cannot be considered apart from all other living species in nature and the environments that surround them" (Andrews, Bubolz, and Paolucci, 1980, p. 32). The family ecological systems framework is used to build a bridge between the events of life observed and the patterns of order discovered through systematic analysis of time, space, and energy dimensions. The family ecological systems framework incorporates concepts and assumptions from general systems theory. It assumes that phenomena must be examined in their wholeness of interaction and interdependence, rather than by simple or linear cause-effect relationships (1980). Systems theory, in general, leads to semantic or descriptive models of phenomena with a view toward understanding or explanation. Interpretations of different phenomena are compared using systems concepts. An ecological systems approach involves the development of models of interpretation which are unified within a broad, but limited, subject matter area using basic principles of interaction (Bubolz, 1985).

An ecological approach emphasizes the biological and physical dimension of organisms and environments, as well as their psychosocial characteristics and interactions. In an ecological approach the physical resource base of the family and its transactions with other systems in the environment are critical (Bubolz and Whiren, 1984, pp 5-6).

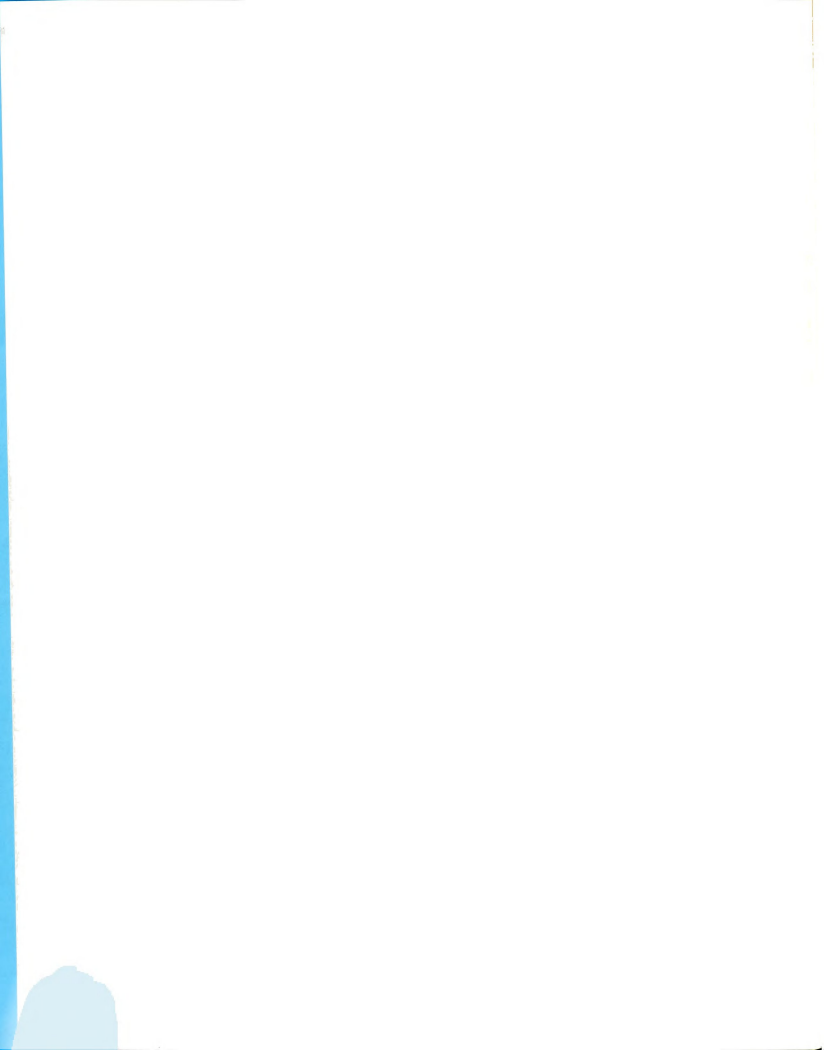
The human family is seen as being embedded in multiple systems of interrelated environments in dynamic association. The environments are conceptualized by Bubolz and Sontag (In Press) as follows:

The natural physical-biological environment includes physical and biological components (e.g., atmosphere, climate, soil, water, minerals, plants, and animals) as they exist in unaltered nature. The human built environment includes alterations and transformations made by humans of

the natural physical-biological environment (e.g. roads, cultivated land, urban settlements, material artifacts, and altered air and water) for survival, sustenance, and the attainment of other ends. The social-cultural environment includes 1) the presence of other human beings (e.g., neighbors who organize community action groups), 2) abstract cultural constructions (e.g., language, laws, norms, and cultural values and patterns), and 3) social and economic institutions [e.g., the social-regulatory system, agricultural-industrial system, and market economy (Koenig, Edens, & Cooper, 1975)] (p. 29).

Dynamic activities within, between, and among the environments effect change or stability in positive or negative feedback loops. Feedback is defined as circularity of action between the parts of a dynamic system (Ashby, 1956). Negative feedback occurs when variables in a system have an effect on other variables such that a situation tends toward equilibrium. A change in one variable induces an opposite or "corrective" change in the other. Positive feedback is not opposite and corrective but is in the same direction and aggravating (Kuhn, 1975).

Human beings live in their environments and their environments live in them, in their thinking, in their values, in their language, and in their relationships (Meeks, 1986). From an ecological perspective the family is seen as a complex adaptive system. The process of adaptation involves accommodation as well as assimilation. To assimilate is to take in some aspect of the environment and use it according to established schemas. An individual at any given time has a set of schemas (structures) made up of reflex actions, ideas, and understandings. These are brought to bear on new experiences as they are encountered. The action schemas which are available to individuals as they adapt to the environment are a function of the individual's capacity for organizing information about the world. Accommodation is



the process of reaching out and adjusting to new and changing conditions in the environment so that pre-existing patterns of behavior are modified to cope with new information or situations. In the process of adaptation if new and old ideas do not mesh or cannot be reconciled, a state of disequilibrium ensues. When we are unable to fit new information into our present schemas we accommodate to the data by reorganizing our understanding in some way (Piaget, 1970; Mead, 1976; Clifford, 1981). "The process of adaptation illustrates the system's ability to make appropriate structural changes in response to developmental growth or situational stress" (Wedemeyer and Grotevant, 1982, p. 186).

Adaptation is a highly significant concept in ecological theory. "A family ecological approach recognizes that family systems are dynamic, in a constant state of change and adaptation" (Andrews, Bubolz, and Paolucci, 1980, p. 29). "The family is not analogous to a machine" (Bubolz and Sontag, In Press, p. 13). It is not merely a simple reacting mechanism but has interpretive and expressive capacities. Individuals, as well as families and organizations, have the potential to bring about a change in consciousness and concomitantly to change values, goals, and rules, in response to changes in the environment.

Other core premises and assumptions basic to the family ecological perspective are summarized, as follows, from a longer list developed by Bubolz and Sontag (In Press, pp. 15-17).

1. The quality of life of humans and the environment are interdependent and neither can be considered in isolation.
2. The world's ecological health depends on decisions and actions taken not only by nations, but by individuals and

families (Brown, Flavin, & Pastel, 1989 in Bubolz and Sontag, 1990, p. 16).

3. All parts of the environment are interrelated and influence each other.
4. An ecological perspective requires that two sets of rules be taken into account: Immutable laws of nature which pivot around capacity of the natural environment to supply essential resources including energy; . . . and human derived rules such as social norms and values, allocation of resources, role expectations, and distribution of power. Families have the power to change human derived rules. Laws of nature are redefined depending upon exploration and discovery.
5. Environments do not determine human behavior but pose limitations and constraints as well as possibilities and opportunities.
6. Decision making is the central control process in families which directs actions for attaining individual and family goals.

In this study the mode of rationality associated with the human ecological approach is hermeneutic or interpretive, leading to an understanding of human action and thought (Bubolz and Sontag, In Press). Andrews, Bubolz, and Paolucci (1980) describe an ecological approach to the study of the family which emphasizes the need to attend to multiple and simultaneous aspects of the object of inquiry and synthesize approaches in order to ascertain the many varied facets of a situation. A grounded theory approach to an ecological study of the family can be termed "planned discovery," as multiple hypotheses evolve not only from the data itself but also from an incorporation and integration of theoretical approaches to interpret findings.

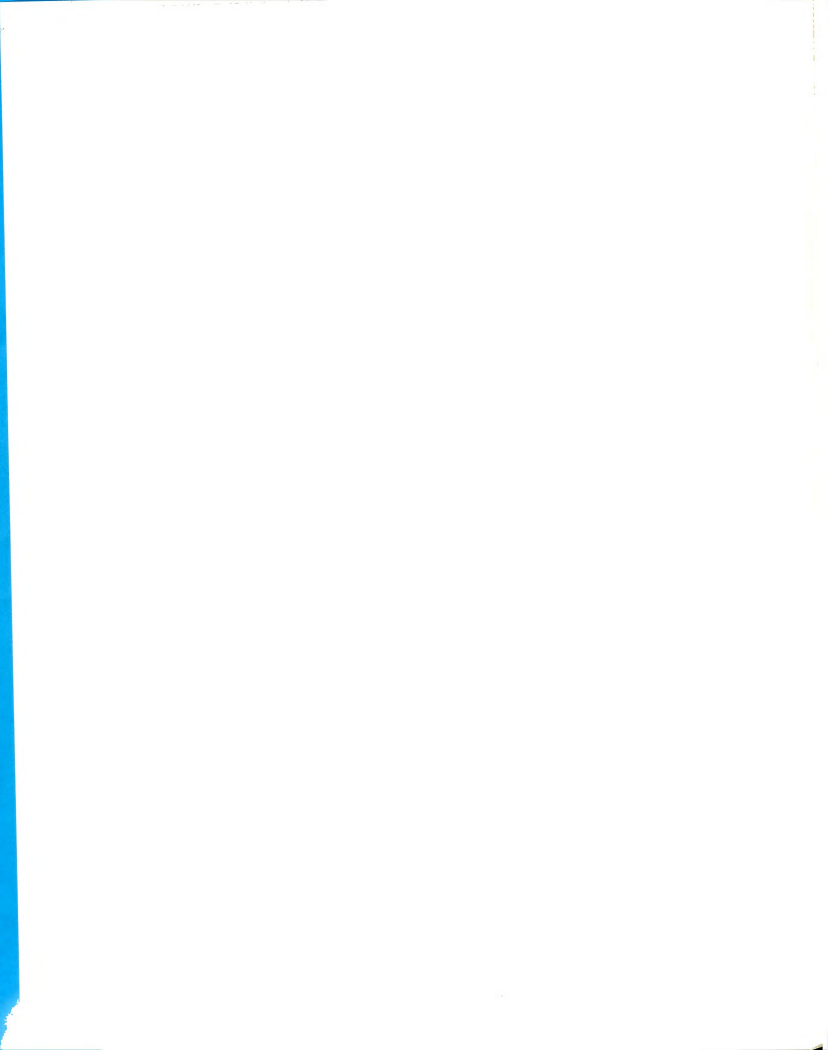
With the goal of developing a framework to explain the interrelationship between human values and resource management, the

author of this study uses the family ecological systems perspective as an umbrella framework and draws from the conceptualizations of several theorists. Nicholas Rescher (1966, 1972, 1982) provides a classification framework for human values. Uriel and Edna Foa (1974, 1980) provide a framework for the classification of non economic and economic resources. Beatrice Paolucci (1966, 1977, 1985), by integrating the decision-making theory of Paul Diesing (1962) into her own theory of family resource management, provides a holistic conceptualization regarding the role of decision making in family resource management. Concepts presented by the above theorists are seen by the author of this dissertation as interfacing with Abraham Maslow's (1954, 1968) hierarchy of human needs and also with key concepts integral to the family process framework proposed by David Kantor and William Lehr (1975). Relevant theory is discussed in more detail in Chapter II. Concepts from relevant theories are used in support of the author's interpretation of data, addressed in Chapters IV and V.

Assumptions

The following specific assumptions underlie the conceptualizations of values and resources presented:

1. Family process is guided by the family's value system.
2. Family members develop and foster values through the ways that they choose to exchange and allocate resources in order to meet needs.
3. Patterns of resource exchange and perceptions of benefits of various resources are transmitted through social



emotional learning as well as through cognitive intellectual processes.

4. The family is an adaptive unit continually processing information from the environment while striving to maintain itself.

5. Values are not static entities, but concepts that are subject to change depending upon informational stimuli from the environment and the ability of family members to perceive and process information.

Definition of Terms

The following terms which represent core concepts in the study are defined as follows:

Values: Conceptions of what is beneficial (e.g., good, profitable, helpful, propitious, useful, advantageous, gainful, availing, desirable) that influence the selection and appraisal of modes, means, and ends of actions and events (adapted from Rescher, 1982 and Kluckhohn, 1961).

Resource: Any asset, material or symbolic, which is transmitted through interpersonal behavior (adapted from Foa and Foa, 1974). Any property of an individual which is made available to persons in the environment as a means for their positive or negative need satisfaction (Levinger, 1959). Six classes of resources that account for basic needs of human beings are defined as follows (adapted from Foa and Foa, 1974; Rettig, 1980; Rettig and Bubolz, 1983):

Love: An expression of affectionate regard.

Status: A valuative judgment that conveys high or low prestige, regard, or esteem.

Services: Activities performed on the body belongings, or environment of a person, usually constituting labor of one person for another to increase physical comfort of the other or to save him/her exertion of energy.

Information: Includes advice, opinions, instructions or enlightenment, exclusive of behaviors that could be classified as love or status.

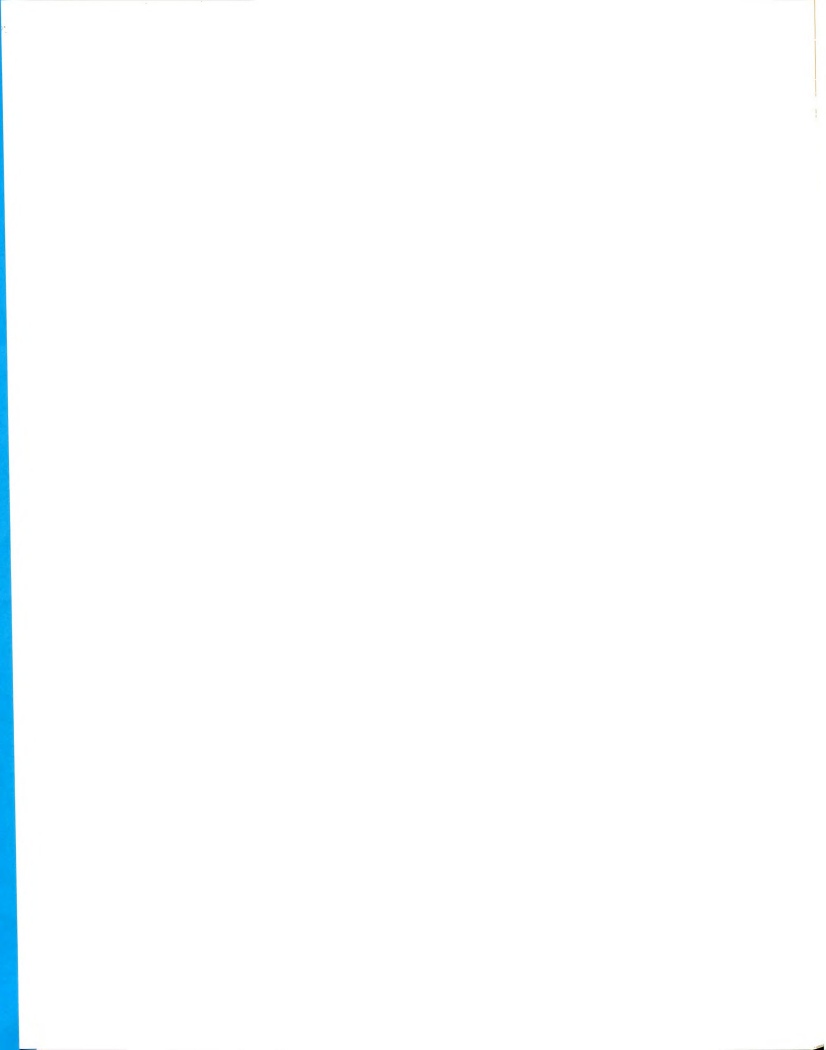
Goods: Tangible products, objects or materials.

Money: Any coin, currency, or token which has some standard unit of exchange value.

Family Resource: What the family has or can create to meet needs, achieve goals, and realize values (adapted from Bubolz and Sontag (In Press) and Paolucci, Hall, and Axinn (1977). "A family resource, then, is matter-energy that has been converted into a specific form for use in attaining a family goal" (Paolucci, Hall, and Axinn, 1977, p. 136).

Resource Exchange: The mutual giving and receiving of material and/or nonmaterial things.

Management: "A comprehensive activity involving the attainment, creation, coordination, and use of resources for achieving goals and realizing values" (Bubolz and Sontag, In Press, p. 34). Successive processes of human-environment transactions that are determined by the human or human organization through continuous



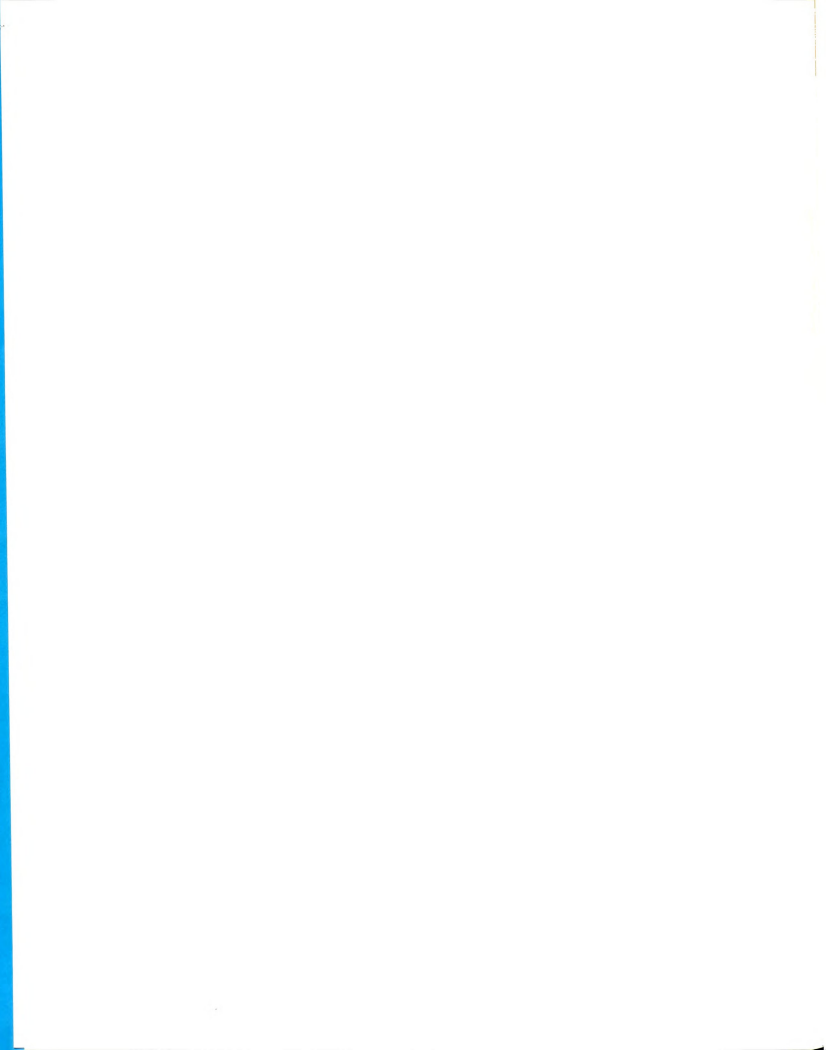
decision making (Paolucci, Hall, and Axinn, 1977).

Family Ecosystem: The system comprised of organism(s) (family members) in interaction with their environments (natural physical-biological, human built, and social-cultural), and the family organization which functions to transform matter/energy in the form of information into family decisions and actions (Paolucci, Hall, and Axinn, 1977; Bubolz and Sontag, In Press).

Limitations and Constraints

As an intensive case study of a family living on a small scale farm, this research is descriptive and exploratory in nature. The study is intended to generate hypotheses to be tested in future research efforts for an important and growing segment of the population. Preliminary findings presented in this dissertation cannot be generalized to a larger population.

The human ecological framework dictates an holistic approach to the study of the family ecosystem. The extensive amount of data collected for the Small Scale Farm/Rural Households Research Project presented an ideal opportunity to do an in-depth analysis of one family in order to develop an ecological model of interaction. This research is a first stage in the development of ecological systems theory regarding values and resource management. An adaptation of grounded theory methodology was used to analyze and synthesize data selected from the larger research study of small scale family farms. The massive amount of data collected from each farm family made it impractical to use the grounded theory approach to analyze data from more than one



family for the dissertation research. The selection process used to select participants in the larger research project constitutes both a strength and a weakness. The choice of a highly resourceful family with excellent communication skills contributed to the success of data gathering but may have influenced the findings in this dissertation research. The subjectivity of the research is acknowledged. Because subjectivity is an issue for any type of research, one piece of research cannot be considered the definite word about a phenomenon (Allen and Gilgun, 1987). The ecological model of interaction developed from this study will need to be tested using comparative analysis in other research efforts leading to the development of ecological systems theory on this topic.

CHAPTER II

LITERATURE REVIEW OF RELEVANT THEORY

An ecological systems perspective extends the unit of attention to include not only the unit under study but its environmental context. The researcher must consider a mass of complex interrelated information. This chapter includes a review of relevant theoretical perspectives which can be integrated within a broad ecological systems framework to facilitate systematic analysis of data.

Rescher's Value Theory

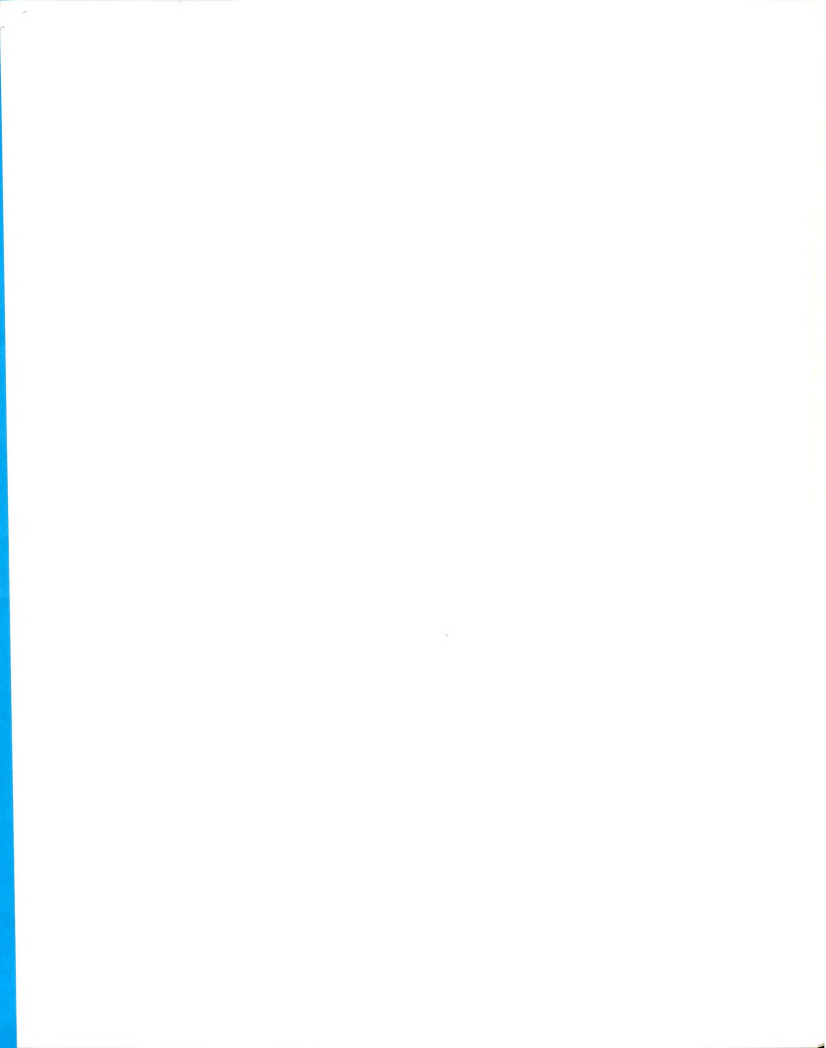
Various fields of study have defined "values" in different ways to fit their particular frame of reference. The following definitions, compiled by Baier (Baier and Rescher, 1969; Rescher, 1982, p. 2), illustrate the great diversity of responses to the question, What is a value?

"A thing has or is a value if and when people behave toward it so as to retain or increase their possession of it."
(George Lundberg)

"Anything capable of being appreciated (wished for) is a value." (Robert Park and E.W. Burgess)

"Values are the obverse of motives . . . the object, quality, or condition that satisfies the motivation."
(Richard T. LaPiere)

"Values are an object of any need." (Howard Becker)



"[A value is] a desideratum or anything desired or chosen by someone, at sometime operationally: what the respondent says he wants." (Stuart C. Dodd)

"By a social value we understand any datum having an empirical content accessible to the members of some social group and a meaning with regard to which it is or may be an object of activity." (Florjan Znaniecki)

"[A value is] a conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable which influences the selection from available means and ends of action." (Clyde Kluckhohn)

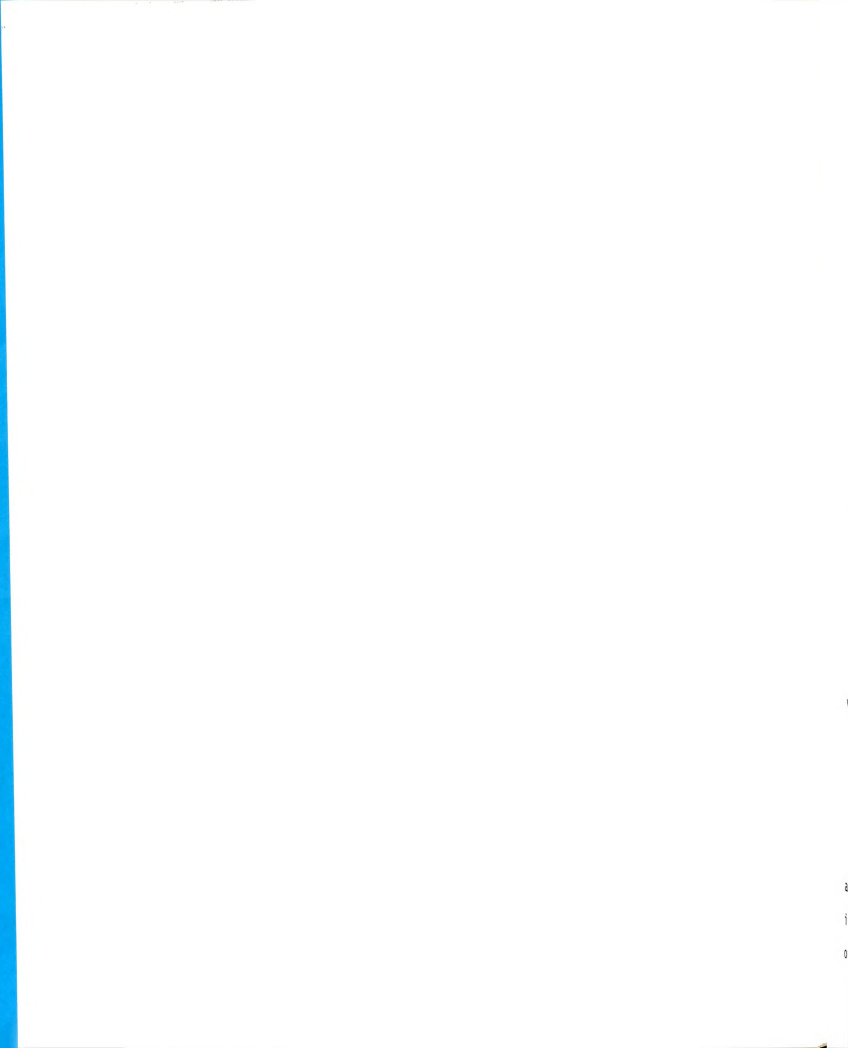
"[Values are] the desirable end states which act as a guide to human endeavor or the most general statements of legitimate ends which guide social action." (Neil J. Smelser)

"[Values are] normative standards by which human beings are influenced in their choice among the alternative courses of action which they perceive." (Philip E. Jacob and James J. Flink)

The variety of responses listed above attests to the fact that an extensive literature on values exists in philosophy and the social sciences. While many scientists agree that values play a decisive role in human motivation there is little agreement on a language to explain the meaning of values or the laws that govern them.

Rescher's approach is decidedly different from many values theorists. Instead of beginning with what a value is, Rescher asks, How is the presence of a value detected (Rescher, 1982, p. 2)? He deals with the problem of how values are manifested. He proposes that subscription to a value is two-sided, both verbal and behavioral. According to Rescher, two major avenues of approach to the analysis of the value patterns of a person or group are available to the researcher.

Because of the dual aspect of values in manifesting themselves in both the spheres of talk and action, we can



seek to determine values from either of these directions" (p.4).

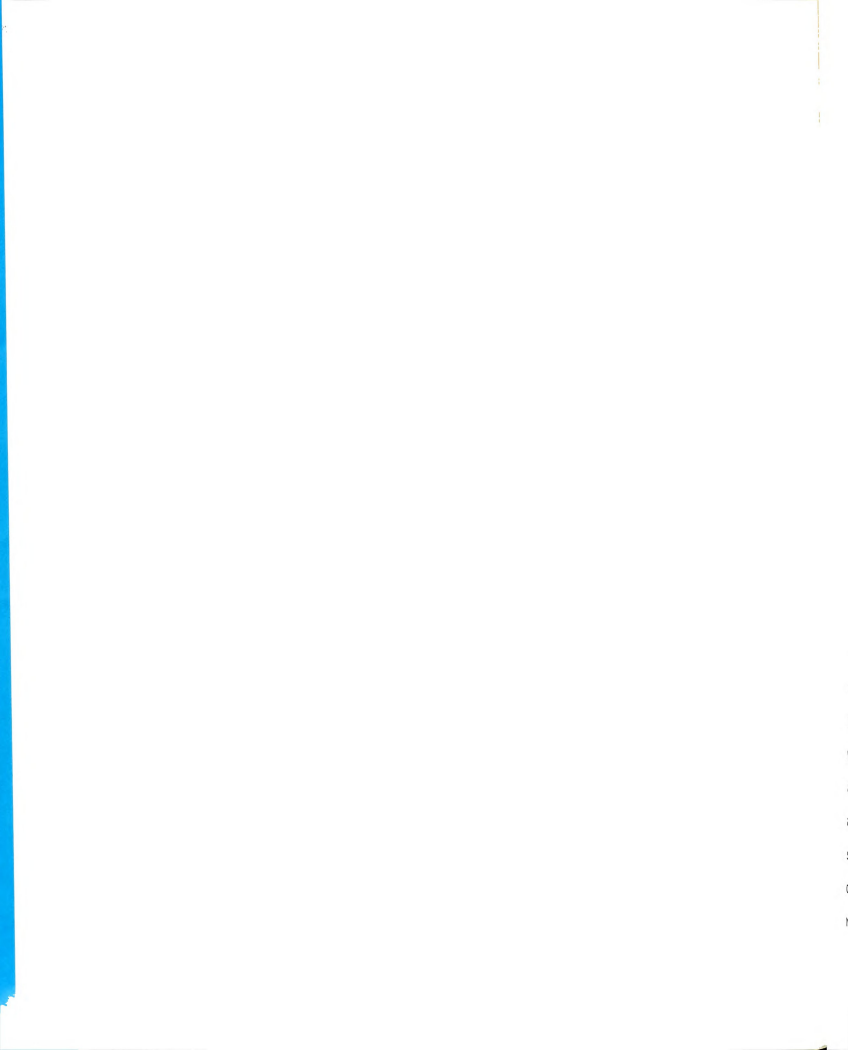
Rescher focused on values in the context of everyday life. Rather than develop a philosophical theory about the nature of "Value" (with a capital V), he philosophically scrutinized the workings of the values concepts which are operative in the business of daily living and concluded that if a person subscribes to a value, a certain type of verbal action is expected. "He would appeal to this value, both in the support and justification of his own (or other people's) actions and in urging upon others the adoption of courses of action and policies for acting" (Rescher, 1972, p. 24). He would also be expected to take the value into account in deliberation and decision making (inner discourse). Thus Rescher (1972) reasoned:

The prime indicators of value subscription are those items which reflect the rationalization (defense, recommendation, critique, justification) of patterns of activity that constitute aspects of a "way of life." A value represents a thesis capable of providing for the rationalization of action by conveying a positive attitude toward a purportedly beneficial state of affairs (p. 24).

Rescher (1982) proposed that values are very much bound up with a vision of the good life through concepts of the beneficial.

Values are intangibles. They are, in the final analysis, things of the mind that have to do with the vision people have of the good life for themselves and their fellows (p. 4) . . . the fabric of value is woven of the thoughts people entertain about their actions within the framework of their view of the good life (p. 6).

With any value there is associated a certain possible state of affairs, which provides a benefit for someone (not necessarily the individual who holds the value). Humans are seen as goal oriented organisms and valuation is possible only by beings capable of feeling



relatively positively or negatively toward things (Rescher, 1982).

Values Classification

Rescher approaches values classification from many sides, associating different principles of classification with each angle of approach. His conception of value lays the basis for an interlocking cross-classification of values. He provides a systematic survey of values which he claims is not exhaustive but provides some needed distinctions. He examines six main principles for classifying values.

1. Classification by the subscribership to the value: "Among what groups of people is the value at home with?" asked Rescher. By proposing a question related to the setting for a particular value, Rescher elicited such classificatory groupings as personal values, professional (professionwide) values or work values, and national (nationwide) values. He was only concerned here with who holds the value, e.g., "Is the value self-esteem put forward in the context of discussion as a value of Smith in particular, or of scientists in general, or of Paraguayans in general (p. 14)?" The subject matter or content of values is dealt with in other classifications.

2. Classification by the objects at issue: Values can be classified with reference to the appropriate group of objects to which the value applies. Values are differentiated according to the domain of applicability of the value. Rescher explains, "Thus if what X values is spaciousness in gardens, we cannot simply speak of spaciousness as one of the values he holds, for he might for example prefer compactness rather than spaciousness in say, dwelling houses" (p.16).

By indicating the domain at issue Rescher specifies which value is

given rather than merely classifying a given value. Some of the main categories in Rescher's (1982) classificatory system are listed below.

Name of value type	What is at issue	Sample values
1. Thing values	desirable features of inert things or of animals	purity (in precious stones), speed (in cars or horses)
2. Environmental values	desirable features of arrangements in the (nonhuman) sector of the environment	beauty (of landscape or urban design) novelty
3. Individual or personal values	desirable features of an individual person (abilities, talents, characteristic traits, habits, features of personality, life patterns)	bravery intelligence
4. Group values	desirable features of the relationships between an individual and his group (in family, profession, etc.)	respect mutual trust
5. Societal values	desirable features of arrangements in the society	economic justice equality (before the law)

Rescher, 1982, p. 15).

The above categories of values by specification of a domain could be extended by listing additional domains.

• Classification by the nature of the benefit: Rescher proposed that the notion of benefit corresponds with that of human needs. Because we have a relatively reliable view of human needs and interests, he

cluded that we also have a plausible survey of potential benefits (see sample values below). These can be projected into a corresponding classification of values according to the type of benefit at issue (see category of value below). The following list is adapted from Rescher (1982).¹

Category of value	Sample values
1. Physical & Material	health, comfort, physical security
2. Economic	economic security, productiveness
3. Sentimental	love, acceptance
4. Social	courtesy, neighborliness, togetherness
5. Professional	professional recognition, success
6. Intellectual	intelligence, clarity, competence
7. Moral	honesty, fairness
8. Spiritual	peace of mind, clearness of conscience
9. Aesthetic	beauty, symmetry
10. Political	freedom, justice

The sample values listed above are grouped according to the generic qualitative nature of the benefit they involve. Rescher (1982, p. 16) illustrated these benefits in the following examples. The number following each statement below corresponds to the values

¹The classification of values by the nature of the benefit is taken directly from Rescher 1982, page 16, with the following adaptations. Rescher's number sequencing for the Category of value and the numbers listed for his illustration of values benefits have been altered by the author of this dissertation to facilitate classification of values in relationship to three types of needs (i.e., physical security, psycho-social, and self-actualization needs). The author of this dissertation has listed additional sample values (i.e., neighborliness, togetherness, competence, and peace of mind) to the list suggested by Rescher.

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. . . being in good standing with ourselves (8), or with our group (4), or with our professional colleagues (5), having welfare of mind (6), or of body (1), enjoying pleasantness in the condition of labor (2), or of life (7), or in the attractiveness of the environment (9) (p. 16).

Rescher also considers values in terms of the extent or magnitude of the benefit (e.g., "health" as a higher personal value than "comfort;" the value of "courtesy" lower in contrast to "justice").

Both singly and in social aggregates people have varying values and orientations. "The pursuit of the realization of a value requires the investment of various resources" (Rescher, 1972, p. 27). Thus the realization or maintaining of a value requires certain costs. Changes in the environment affect the extent of the requisite resource investment.

The maintenance of a value will obviously be influenced by its cost. When this becomes very low, we may tend to depreciate the value. When it becomes high, we may either depreciate the value (the fox and the grapes reaction) or simply settle for lower standards for its attainment (pp. 27-28).

4. Classification by the purposes at issue: Values can be classified according to the specific type of purpose served by realization of the valued state of affairs. This classification of values takes into account "the specific human purposes to the attainment of which the value is relevant (e.g., "the exchange value of an artifact . . . the persuasive value of an argument" (Rescher, 1982, p. 17).

5. Classification by the relationship between the subscriber and the beneficiary: This classification centers on the "orientation" of the value, the relationship between the person who holds the value, the

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scriber and the presumptive beneficiaries who benefit from the realization of the value. This approach leads to a differentiation between self-oriented, other-oriented, and mankind-oriented values as described below (p. 18).

- I. Self-oriented (or egocentric) values
(Examples: "success," "comfort," or "privacy" -- that is, one's own success, comfort, or privacy)
- II. Other-oriented values
 - A. Ingroup-oriented values (or parochial) values
 1. Family-oriented values (family pride)
 2. Profession-oriented values (the good repute of the profession)
 3. Nation-oriented values (patriotism)
 4. Society-oriented values (social justice)
 - B. Mankind-oriented values
(Examples: Aesthetic values or humanitarian values in general)

6. Classification by the relationship the value itself bears to others.

Rescher sees some specific values as systematically subordinate to others (i.e., instrumental or means values). He points out that "generosity" for example may be prized for its conduciveness to the "happiness" of others; while "loyalty" may be prized on its own account, not because acting on it leads to the realization of other values (1982).

The Role of Values

The "dimensions of values" classified by Rescher provide a framework for approaching a systematic explanation of the role of values in the human ecosystem. According to Rescher (1982) the principal role of values resides in the rationalization of action which can be viewed

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m three perspectives (p. 11):

1. The first-person perspective of deliberation and decision making in the context of the question: What am I (are we) to do?
2. The second-person perspective of advising and counseling in the context of the question: What are you to do?
3. The third-person perspective of the justification and critique of action: What are the merits (or demerits) of what X is doing (has done)?

Rescher (1982, p. 12) points out, "the above three perspectives have in common a uniform question, What is the relative merit of this course of action in comparison with that alternative?"

Rescher's Classification of Values and the Family<->Farm Ecosystem

Rescher's systematic classification of values embodies the distinctions necessary for an examination of the role and structure of values in the human ecosystem. The case study data collected for the study of the family<->farm ecosystem lends itself to analysis of both discourse and action over time. A close look at the actions of the family, the values content expressed in discourse during family interviews, and the consistency between discourse and action as evidenced in family records and assessment tools provided the information needed for the use of a modified grounded theory methodology. Rescher's classification of values by the nature of the benefit supplied the researcher with a beginning framework for organization of the values data.

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The Foa and Foa Resource Exchange Theory

The Foa and Foa (1974) resource exchange theory links the concepts of resources and needs. According to Foa and Foa (1974, p. 36) " a resource is any commodity - material or symbolic - which is transmitted through interpersonal behavior." Interpersonal behavior is seen as a channel for resource transmission in an attempt to meet needs. The Foas postulate that there are six classes of resources necessary to account for the basic needs of human beings: Love, status, information, money, goods, and services. These resources are transmitted between and among family members and their environments. Interpersonal behavior is interpreted as an exchange. All exchanges are not characterized by profit and loss. For example, love and information can be given to others without reducing the amount possessed by the giver (1974).

Structure and Function in Interpersonal Resource Exchange

Foa and Foa do not consider structure (characterized by endurance, permanence and stability) and function (activities or processes which change in response to environmental stimuli) as separate contrasting notions. Rather the structure and function of a resource are seen as dynamically interrelated. The separation between structure and function originates in a mechanistic view of organisms. Conceptual separation is justified in the study of some machines, such as an automobile engine, because the structure of the engine determines its function. But as suggested by Foa and Foa (1974), in studies of modern computers outcome modifies the program enabling the computer to capitalize on previous experience.

Cognitive developmental views of socialization (Baldwin, 1969;

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Emmerich, 1968; Kohlberg, 1969) support the basic Lewinian notion of structural change. Lewin (1936) described three kinds of structural change:

. . . differentiation, or categorizing events, which were previously included in the same class, into different classes; integration (the opposite of differentiation), when items previously classified in different categories are reunited into the same class; restructuring, a change in the relative position of classes (Lewin, 1936, p. 155).

Lewin's conceptualization of structural change underlies the resource exchange framework proposed by Foa and Foa (1974).

Exchangeability of Noneconomic and Economic Resources

Foa and Foa (1974) explain the dynamic exchangeability of noneconomic and economic resources by differentiating rules of exchange according to concrete-symbolic and particularistic-universal scales. Concrete behavior is described as "giving an object or performing an activity that affects the body or belongings of another individual" (p. 81). Services (activities which constitute labor of one person for another) and goods (tangible products, objects, or materials) are classified as concrete because they involve the exchange of a tangible activity or product. Status (evaluative judgments that convey high or low prestige) and information (advice, opinions, instruction, or enlightenment) are conveyed by verbal and nonverbal behaviors and are more symbolic. Love (viewed as affectionate regard) and money (coins, currency, or tokens that have some standard unit of exchange value) can be exchanged in both concrete and symbolic forms.

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Particularistic exchanges involve persons who are relatively significant to one another (e.g., a parent, spouse, or friend). Universal exchanges are at the opposite end of the scale because the person who renders the service can be relatively insignificant. Love is an extremely particularistic resource because it matters a great deal from whom we receive it, and its effectiveness depends upon the person who gives it. Money is much more universal because it retains the same economic value regardless of the relationship between or characteristics of the giver or receiver (Foa, 1971). When we give a particularistic resource, such as love, we also give to ourselves (experience a growth in this resource) and then we have more than we had before. But when we give money and goods, we experience a loss. We have less than we had before. Money and goods follow the rules of economic exchange. Love and status do not.

If needed resources are not available, substitutions which are closer in the structure may be relatively satisfying. The ordinal position of a resource on the particular-universal dimension indicates the relative degree of satisfaction with the exchange. A study conducted by Turner, Foa, and Foa (1971) tested the hypothesis that the more two given resources are proximal in the structure, the more they will be perceived as similar; and the more distal the resources are, the more they will be perceived as different. It can be concluded that the boundaries between neighboring resource classes are more permeable than boundaries between distant ones. Likewise there is more intercorrelation between resources proximal in the structure.

For example, if one wishes to receive love in a given situation, his preference for status will be higher than his

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preference for money. Consequently, the correlation between love and status will be higher than the one between love and money (Foa and Foa, 1974, p.86).

In summary, the more particular the resource, the greater the probability of satisfaction when the same resource is exchanged (e.g., an exchange of love between two persons). Less particularistic resources (e.g., goods, and money) can be satisfactorily exchanged across class categories. Six exchange properties have been identified (Foa, 1971, pp. 348-349).

1. Relationship between self and other. The relationship between giving the resource to another and giving it to self is positive for love but diminishes and becomes negative as one moves from love toward money. This is related to the notion that the ability to love others requires self-acceptance and self-love. Money, on the other hand, is opposite since one person's gain is another's loss. Consequently, an exchange of money can result in gain or loss while an exchange of love cannot.
2. Relationship between giving and taking. Love usually involves a certain degree of ambivalence; giving love can occur in the presence of some hostility or the taking away of love. Giving and taking away money is, however, not likely to occur at the same time.
3. Relationship between interpersonal situation and exchange. Money can be exchanged through a third person. It does not require an interpersonal relationship in order to be transferred or kept for future uses. Love, however, cannot be separated from the persons involved, kept for a long time without actual exchange, or transferred by an intermediary.
4. Time for processing input. Giving and receiving love requires time. It cannot be hurried. Money, on the other hand, can be exchanged rapidly.
5. Delay of reward. Building love takes a relatively long time. Rewards come usually after repeated encounters; trust (the expectation that the exchange will be completed) is a necessary condition. Exchanging money with another resource can be done in a single episode.
6. Optimum group size. There may be an optimum group size for exchange of particular resources. Love functions best in small groups and is particularistic while money

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Properties (1) and (2) refer to exchange outcomes, and (3) through (6) involve environmental conditions that enhance or hinder particular types of exchange.

Interpersonal Resource Exchange and the Family<->Farm Ecosystem

The Foa and Foa interpersonal resource exchange framework helps to explain decisions made by families. Family resource exchanges are critical to successful functioning of the family system. The ecological model leads to a focus on the complex ecological systems that include the family, their total environment, and the interactions within the environment. Resources are a critical component of the family<->farm ecosystem. The Foa and Foa resource exchange model provides a framework for classification of these complex interrelated variables.

Family Resource Management and Decision Making Theory

Management in the family is that aspect of human behavior that concerns itself with how individuals - alone or in concert - maintain and actualize human values, and attain specific goals through the everyday use and creation of resources.

Beatrice Paolucci

The above quotation is from a paper by Beatrice Paolucci, entitled "A Conceptual Framework for Family Resource Management," included in an unpublished collection edited by Hogan and Davey (1985). Paolucci believed that the management function evolves from the conscious direction of behavior toward predetermined individual and family goals. 'Family management creates an environment in which each individual can perform, grow, and develop as well as cooperate toward the attainment of

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group goals" (p. 3).

According to Paolucci (1985), it is through cooperative endeavors and resourceful management that family members insure each individual's well-being (i.e., meeting basic needs of food, rest and activity, protection and nurture, emotional and economic security, and growth and development). The process of managing involves dynamic, on-going actions of arranging and coordinating resources through goal setting, planning, implementation, and evaluation.

In his book, Home Economics, Wendell Berry (1987) defines resource from its Latin root "resurgere", to rise again.

In this sense a resource is a dependable (which is to say a constant) supply; a resource rises again as a spring rises, refilling the basin, after a bucket of water has been dipped out. Under the right household management resources replenish themselves and they can last as long as the earth and the sun (p. 134).

Berry (1987) points out that right household management respects the source, and the power of the source to resurge, and does not ask too much.

Paolucci (1985) speaks of resourcefulness as a manager's ability to discover and utilize appropriate means to a given end. She provides an explication of the resource construct which has direct bearing on right household management. According to Paolucci (1985), resourcefulness includes the following characteristics (p. 5):

Usefulness. A creative characteristic - a unique combination of perceiving demand and using means to meet demand.

Limitation. Restrictions are imposed by limits of quality, excellence, and meeting standards in the makeup of the resource itself.

Substitution, alternatives. Resources are interchangeable

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and transferable; one may serve in place of another or offer possibility of a course of action when other resources are committed elsewhere or nonexistent. There are two meanings of alternativeness:

- a) alternate use of a given resource
- b) use of an alternate resource to reach a given goal

Interrelatedness and interdependence. Interrelatedness is a reciprocity among means relevant to a specific outcome. Interdependence is a mutual dependence; one resource does not function without another or others.

Achievement of a specific goal is often dependent upon an interrelated use of interdependent resources and involves a mutual achievement of goals between two or more participants in a resource exchange.

Resource Management and Decision Making as Conflict Resolution

What motivates families to attempt to manage resources? Paolucci (1985) suggests that management is motivated when a conflict situation is perceived.

Conflicts occur when family members note: a) the values held by certain individuals within the household are in conflict with those held by other persons both inside and outside the home; b) when what is being accomplished is not consistent with what the group believes it ought to be accomplishing; and c) when there is disparity between goals and achievement (p. 7).

Conflicts are usually brought about by changes in the environment or changes within the family itself, ranging from occupational or income changes to normal developmental change. "Change motivates decision making" (p. 7).

Beatrice Paolucci saw decision making as a process of reducing dissonance between the family and its environment as well as between and among family members (Paolucci, Hall, and Axinn, 1977). The decision-making process is seen as an integral component of management.

The process is dynamic but exhibits continuity of time and

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interests. The continuity is evidenced by the flow of thoughts, ideas, facts, and feelings (information) over time. The process has movement . . . It begins with a desire for change, feelings of discomfort, doubt, unpleasantness, or uncertainty. . . It terminates in a commitment to one alternative that has either been selected from among acceptable alternatives or determined by melding different alternatives so that a new one emerges (Paolucci, Hall, and Axinn, 1977, p. 94).

The movement from beginning to termination in commitment is not seen as random. Information must be ordered so that structure is given to the process. Paolucci, Hall, and Axinn (1977) define rationality as the ability to order information in an objective and logical manner and contend that decision rationality varies with decision situation.

It has been found that the degree of rationality present is situation specific; that is the decision process varies with the particular family decision (Glass, 1961; Baker et al, 1973; and Baker, 1974 in Paolucci, Hall, and Axinn, 1977, p. 100).

Substantive Characteristics of Decision Making

Paolucci (1966) classified decisions according to formal properties and substantive characteristics.

Formal properties refer to theoretical and abstract characteristics that are independent of content, i.e., degree of risk involved, information available, whether or not decisions are irrevocable . . . Substantive characteristics are related to the nature of the problem, for example, economic, social, or technical (p. 5).

According to Paolucci (1966) the kinds of decisions families make can be grouped into a broad category labeled managerial, with sub-categories: social (integrative), economic (allocating), and technical (procedural).

Diesing (1962) proposed that different types of rationality principles of order) can be activated according to the decision situation. He argues that decision situations differ in their approach

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to reason: "reason as creativity is related to social decisions and activates social rationality; reason as calculating is related to economic and technical decisions and activates economic and technical rationality.

Reason as Creativity: Social Rationality

Social rationality is an order of interdependence or solidarity. It exists when people engage in joint action, when they share experiences and understand one another. People who constantly share action and experience are interdependent in the sense that a change in one produces an answering change in others, they are constantly adjusting to one another, constantly changing (Diesing, 1962, p. 236-237).

Diesing (1962) found that it is necessary for people involved in social decision making to have the same "cognitive map" of the system, since divergences in maps would lead to separation in action.

The persons participating in shared actions develop both trust and self-assurance because of their mutual support. An order of interdependence develops through the mutual adjustment of parts; it is not focused on any external product, as is a productive order. Its parts are internally related in contrast to the external ranking relations occurring in an economic order (p. 237).

Social decisions in the family and between family members and the environment result from mediation rather than selection. Paolucci, Hall, and Axinn (1977) posed that "the key to social decision making is for the people involved to work together creatively to find an answer that can satisfy all of them" (p. 102). As many potential solutions as possible are presented, differences as well as similarities are recognized, melding takes place, and a new alternative arises which can best satisfy everyone's needs. For social decisions "the decision process is one of creating a new course of action out of an indefinite

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number of possibilities present in the decision situation" (Paolucci, 1966, p. 7).

Reason as Calculating: Economic and Technical Rationality

Economic rationality (order) emerges out of the continual measurement and comparison of values that occur as individuals search for the most desirable alternative to choose. Each act of measurement and comparison, however crude, helps to put the individual's values into a rank order . . . Discrepancies between the orderings of different individuals leads to exchange and creates a market, in which a standard exchange price tends to get assigned values (Diesing, 1962, p. 240).

Economic decision making in the family is seen by Paolucci (1966) as a process of ordering goals and allocating resources. Ordering, evaluating, and selecting ends are integral to the economic decision model as described by Paolucci (1966) and Diesing (1962). The means-end selected is seen as providing the greatest yield from available resources. Either a single end is chosen or several ends are rank ordered. The commonly accepted mark of economic rationality is maximum goal achievement (Diesing, 1966). Diesing observed that the root value underlying the economic order is maximization. "Good is conceived as essentially quantitative, as something that can be increased or decreased" (Diesing, 1962, p. 35). Decisions are thought of in terms of means and ends.

When several means are available for one's ends, it is reasonable to give them all equal consideration if one is to find the most profitable means or combination of means (p. 36).

Impartiality is another essential element in economic decision making. Partiality is considered as irrational because it prevents maximization.

In summary, the three elements of economic rationality are

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maximization, impartiality, and the means-end distinction (Diesing, 1962). Paolucci (1966) suggests that once an economic decision is made, goals must remain constant if the decision is to be successfully implemented.

Economic decisions are relevant to management only as families know what they really want and what resources are available (p. 6).

Paolucci (1966) hypothesized that implementing economic decisions is successful only in families that are well integrated - having some degree of consensus of goals, roles, or duties, and interpersonal relations.

Technical rationality is defined by Diesing (1962) as "the efficient achievement of a given end" (p. 9).

Technical rationality appears in actions which are undertaken for the sake of achieving a given end. When such actions are repeated again and again they become standardized and turn into techniques, or ways of acting (p. 9).

Each step of a productive sequence, chosen because it is the best fitted to move toward a given goal, is a technical decision. According to Diesing (1962) "technical decisions are not possible until after the economic question of comparative costs have been answered" (p. 12).

Resource Management and Decision Making and the Family<->Farm Ecosystem

Decision making is clearly a basic element in family farm resource management. As Paolucci (1966) points out "each management function pivots around a decision" (p. 10). Family farm management necessitates a series of interrelated and interdependent decisions regarding the use and creation of resources to sustain the family and realize family goals.

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The goal of this research is to identify patterns of relationship between human values and family resource management processes in a family<->farm ecosystem, particularly noting the interface between the subsystems. Dising's classification of creative and calculating types of rationality integrated with Paolucci's conceptualizations of family resource management and decision making constitute a perception of reality consonant with and integral to the overarching family ecological systems approach.

Concepts from Other Relevant Theory

Key concepts within Maslow's theory of human needs and the conceptual model of family process proposed by Kantor and Lehr (1975) are presented as relevant theory and used in this dissertation research as part of a supporting framework for data interpretation. Concepts from these theories are seen as interfacing with the values theory and resource management theory presented in the former sections of this chapter. The decision to incorporate these theories was made during the process of data analysis and synthesis.

Abraham Maslow: Human Needs

Abraham Maslow (1954) hypothesized that humans are motivated toward goal-directed behavior according to a hierarchical structure of needs: physiological, safety, love, esteem, and self-actualization. For the purposes of this dissertation, Maslow's five levels of needs have been consolidated into three categories. The following categories were adapted from Maslow (1954) and compiled into three categories by Clifford (1989, p. 19).

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1. **Physical/Security Needs:** When the organism is dominated by the physical needs (basic biological needs), all other needs may be pushed into the background. If basic needs are met, the security needs (safety and protection against the dangers of the environment) become more prominent and may dictate a preference for familiar rather than unfamiliar things and for undisturbed routine or rhythm, the security of an orderly, predictable world.

2. **Psycho-Social Needs:** The psycho-social (relatedness) needs expressed in transactions with other persons include the needs for belongingness, love, and esteem. When the physical and safety needs are met fairly well, the individual experiences the need for a close, emotionally satisfying relationship with another person.

3. **Self-actualization Needs:** The clear emergence of these needs usually rests upon prior satisfaction of lower-level needs. Self-actualization refers to doing what one is fitted for, the fulfillment of one's capabilities, and acceptance of one's own intrinsic nature. A self-actualizing person may endure hunger, physical danger, and other forms of deprivation to satisfy this need. The need for self-actualization includes the spiritual need to move toward higher levels of understanding the mysteries of human existence, the need for integration of the personality, and a sense of place in the environment.

According to Maslow (1954), behavior and becoming is the result of

the interaction between environment and individuals as they see and interpret themselves through the developing self-concept. Environmental influences are seen as interacting with the genetic nature of the individual. "As individuals attempt to meet needs, transactional feedback processes are initiated and a personal values framework is developed" (Clifford, 1989, p. 19). Ultimately human needs are met through resource management which involves goal setting to realize values (Paolucci, 1985).

Kantor and Lehr: Target and Access Dimensions in Family Process

David Kantor and William Lehr (1975) propose that all human beings, in whichever way they attempt to realize them, seek certain

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(1) affect, that is, intimacy and nurturance - that sense of loving and being loved by someone in our world; (2) power, the freedom to decide what we want, and the ability to get it - whether it be money, goods, or skills; (3) meaning, or some kind of philosophical framework that provides us with explanations of reality and helps us define our identity, so that we glean a sense of who and what we are and perhaps who and what man is (p. 38).

Kantor and Lehr (1975) conceptualize a six-dimensional model for goal-seeking activity that incorporates the three target dimensions or goals (affect, power, and meaning) and three access dimensions (space, time, and energy). For the purposes of this dissertation research, the access dimensions are considered as resource channels or the media in and through which family action takes place. Resource channels influence resource exchange and goal seeking activity.

Without space there can be no place for an event; without time no sequence and therefore no informational processing; without energy, no vitality. These three then are the media in and through which families move (p. 40).

Within each of these dimensions, transactional feedback and regulation of resources take place. Kantor and Lehr (1975) describe specific access mechanisms which come into play.

Mechanisms can be understood as a family's "structures of action," as abstract concepts which become tangible in operation. A family's mechanisms are those operations it must carry out in order to maintain itself as an on-going system, much as a single human organism requires respiratory and circulatory mechanisms to maintain itself (p. 68).

In a broader sense the access mechanisms can also be seen as operative in the total family<->farm ecosystem, particularly as related to resource management. Resource management is seen by this researcher as including the use of methods of access to target goals (dimensions), as

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cribed by Kantor and Lehr (1975).

The following definitions of methods of access (access mechanisms) specific to each access dimension (resource channel) are summarized from the lengthy explanations given by Kantor and Lehr (1975, pp. 66-102).

(1) Methods of Access: Space

(a) Bounding is a mechanism in which families establish and maintain their territory within the larger community space by regulating both incoming and outgoing traffic (p.68).

(b) Linking is the regulating of distance, that is, the physical and conceptual associations and disassociation of persons. . . . The focus of linking mechanisms is not on the targets themselves but on members and their movements as bearers of targets (p. 70).

(c) Centering consists of the developing, maintaining, and transmitting of spatial guidelines for how traffic should flow within and across borders. . . . These guidelines are also the basis on which members form a coherent view of themselves and of the family, and so determine what they and it stand for. In performing these tasks, the guidelines, and the centering operations supporting them, can be the glue which binds members together into a cohesive whole (p. 74).

(2) Methods of Access: Time

(a) Orienting is the selecting, directing, and maintaining of attitudes and behaviors toward the past, present, future and non-temporal realms of experience by emphasizing one or more of these realms or of the particular relationships among them. . . . Orienting determines the temporal field(s) in which members are to gain access to the targets of affect, power, and meaning (pp. 79-80).

(b) Clocking is the regulation of the sequence, frequency, duration, and pace of immediately experiencing events from moment to moment, hour to hour, and day to day (p.82).

(c) Synchronizing is the temporal equivalent of the spatial mechanism centering. It is a mechanism through which a family develops and maintains a program for regulating the family's total use of time (p. 86).

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(3) Methods of Access: Energy

(a) Fueling regulates the acquiring of energy. . . . Fueling begins with surveying, that is, with locating the sources of energy (p. 92). Fueling also involves tapping, charging, and storing. In tapping, families try to hook up with the sources of energy they have located. . . . Charging is an actual taking in of energy. Families experience storing when they develop and maintain a reservoir of available energy in the form of meanings, images, feelings, and/or body responses (pp. 93-94).

(b) Investing is the regulation of expending or discharging energies to targets and bearers of targets, whether they be people, objects, or events. . . . Investing implies expenditures, not just for expenditure's sake, but for some return (pp. 95-96).

(c) Mobilizing: By means of its mobilizing mechanism, families develop and implement guidelines for regulating the total flow of energy in a family, including how energy should be acquired and expended (p. 98).

Relevant Theory and the Family<->Farm Ecosystem

According to Kantor and Lehr (1975), all goal-seeking activity is related in some way to an attempt to gain the targets affect, power, and/or meaning in life. Humans mark off pathways for attaining these targets through the resource channels of space, time, and energy. Daily living in the family<->farm ecosystem involves a continual series of choices regarding how to regulate time, space, and energy to meet basic survival (physical/security), relational (psycho-social), and growth (self-actualization) needs; to realize values; and access the targets of power, affect, and meaning in life.

Figure 1 presents an integrative framework of human needs, values, goals, and resource channels. Time, space, and energy as resource channels (access dimensions) provide access to target goals through transactional and resource management processes (methods of access) that

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result in meeting needs and realizing values (Clifford, 1989). This framework was developed in the beginning phase of this research study in relationship to information from the case study. It provided a schema for analysis and synthesis of the data for this dissertation.

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Note:

HUMAN NEEDS CLASSIFICATION	CORRESPONDING VALUES		UNIVERSAL HUMAN GOALS
	DOMAINS	BENEFITS	
Physical/Security Needs - for air, water, sunshine, food, clothing, shelter, and safety.	Physical/Material Values	Health Comfort Physical Security	POWER - the freedom to to decide what we want and the ability to get it whether it be money, goods, or skills.
	Economic Values	Economic Security Productiveness	
Psycho-social Needs - for personal interaction, the company of others, self esteem, and the esteem of others.	Sentimental Values	Love Acceptance	AFFECT - intimacy and nurturance, the sense of loving and being loved.
	Social Values	Courtesy Togetherness Neighborliness	
	Professional Values	Recognition Success	
Self-actualization Needs - for understanding of the mysteries of human existence, the environment, and our place in it.	Intellectual Values	Intelligence Competence	MEANING - some kind of philosophical framework that provides us with explanations of reality and helps us define our identity so that we can glean a sense of who and what we are and who and what human beings are.
	Moral/Political Values	Honesty Fairness Justice	
	Spiritual Values	Peace of Mind Clear Conscience	
	Aesthetic Values	Beauty Symmetry	
RESOURCE CHANNELS			
TIME		SPACE	ENERGY

Figure 1. Integrative Framework of Human Needs, Values, Goals, and Resource Channels

Note: Adapted from Clifford (1989)

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CHAPTER III

METHODOLOGY

As discussed earlier, this study is part of a broader research project which utilized a multiple case study design. The purpose was to explore and describe phases and processes of adaptation from a family ecological systems perspective. For the purpose of studying values and resource management, the author of this dissertation analyzed selected data from one of three families who were participants in the broader research project. The first sections of this chapter will describe the overall design for the larger project because it encompasses the single case study analyzed for this dissertation. The research process for the dissertation study will then be described.

Research Design in the Context of the Larger Study

Yin (1984) defines a case study as an empirical inquiry that: "investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident, and in which multiple sources of evidence are used" (p. 23). In an attempt to understand ecosystem change and adaptation, researchers M. Suzanne Sontag and Margaret Bubolz used a longitudinal multiple case study approach designed to explore and describe the phenomenon of

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adaptation from an holistic contextual perspective. As human ecologists they were interested in the human unit of analysis, its environment, and the interaction between the human unit and its environment. Within an ecological systems framework, the researchers identified classes of variables which were measured over time in an attempt to describe the dynamics of the family<->farm ecosystem (Sontag, Bubolz, Abler, and Clifford, In Progress). The author of this dissertation, a graduate research assistant who joined the research team Spring 1986, was particularly interested in two key variables, values and resource management.

A small number of cases allowed for the use of multiple sources of evidence to obtain information about various subsystems and their interaction. The research project was designed to enable the researchers to follow the same families longitudinally for a two-and-a-half-year period in order to describe change over time.

The decision to conduct three case studies was determined by the availability of three farm sites of varying acreage (5, 20, and 40 acres) on University property at a field research site. Size of farm was considered by agriculturalists to be a major factor in crop and animal enterprise selection and was expected to elicit different adaptive mechanisms (Sontag, Bubolz, Abler, and Clifford, In progress, p. 8).

Housing was available on each farm site and both animal and crop operations were possible. Barns and outbuildings existed on the two larger sites.

Participant Selection and Research Role

Following a search and selection process initiated in late Spring 1983, three families were selected to participate in the research project. Prior to selection each had submitted a research proposal

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containing the following elements:

(1) statement of intent, (2) a description of an appropriate farm operation, (3) estimated labor requirements for development, (4) estimated costs to establish the farm operation, (5) equipment needs over a three year period, (6) estimated feed costs for animals per year, (7) estimated profits from production over a three-year period, and (8) a cost pay back analysis for each year for three years (Sontag, Bubolz, Abler, and Clifford, In Progress, p. 9).

From a pool of 212 interested persons who responded to a widely circulated press release advertising the program, twenty proposals were submitted. Proposals of seven families obtained positive evaluations across selection committee members and each of the families was personally interviewed. Consensus was reached regarding the three families selected and they were notified of the committee's choice. The 40 acre and 5 acre parcels respectively were allotted to each of two young married couples in their early to mid-twenties. Each of these families had two preschool children. A third married couple was designated to operate the 20 acre farm. They had no children when the project began. Their first child was born during the second year of the project. Selected data from the case study of Ted and Joanne Harding,¹ the family who operated the 20 acre farm, were analyzed in depth as relevant to the topic of this dissertation. Selection of this single case study and specific data chosen for analysis are addressed later in this chapter. Information gathered from the family is discussed in detail in Chapter IV.

¹The family name is a pseudonym. For data presentation and case description the names of people and places are changed.

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The case study strategy allowed the researchers the flexibility essential for an holistic research design. The farm families were active copartners with the researchers. They were in a sense planted in the small scale farm environment and were able to be active participant observers of the farm lifestyle. They interacted with neighboring farmers and other operators of small scale farms and participated in local activities and programs related to farming. They became active in the farm community as members of co-ops, craft groups, and study/share groups for organic growers and small-scale livestock owners.

The families observed, reflected on, and integrated their farm experiences. They kept detailed records of time use and external contacts related to the farm enterprise, participated in numerous interviews, and responded to various assessment instruments. One member from each family was expected to devote a major portion of time to the farm operation. One member was employed as a Specialist by the University on a half-time basis, an appointment similar to a graduate research assistant. The families were not obliged to pay rent but were expected to pay for their own operating and living costs. Each family had access to a loan fund for purchase of farm supplies and equipment. Some equipment from the research station could be borrowed or leased. Although their experiences, on some levels, cannot be directly comparable to other beginning farmers, (e.g., involvement in the research, including benefits and responsibilities), attempts were made to make their situation as realistic as possible (Sontag, Bubolz, Abler, and Clifford, In Progress).

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Case Study: Validity and Reliability Issues

As proposed by Yin (1984), the case study research situation cannot be contrasted to survey research, where a "sample" (if selected correctly) readily generalizes to a larger universe. "This analogy to samples and universes is incorrect when dealing with case studies" (p. 39). Case studies rely on analytical generalizations which lead to theoretical propositions.

A common complaint about case studies is that it is difficult to generalize from one case to another. Thus analysts fall into the trap of trying to select a "representative" case or set of cases. Yet no set of cases, no matter how large, is likely to deal with this complaint. The problem lies in the very notion of generalizing to other case studies. Instead an analyst should try to generalize findings to "theory," analogous to the way a scientist generalizes from experimental results to theory. (Note that the scientist does not attempt to select "representative" experiments.) (p. 39).

External validity is not a factor in case study research. Since case studies rely on analytical generalizations rather than statistical generalizations, the rules for generalizing to a larger universe which apply to survey research are not appropriate. "In analytical generalizations, the investigator is striving to generalize a particular set of results to some broader theory" (p. 39), rather than from one case to another. Glaser and Strauss (1967) suggest that the discovery of theory from data - which they call grounded theory - is a major task confronting social researchers.

Issues of validity and reliability are particularly complex in case study research. Construct validity is especially problematic since subjective judgments may be used to collect data. Yin (1984) suggests that three tactics are available to increase construct validity.

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The first is the use of multiple sources of evidence, in a manner encouraging convergent lines of inquiry. . . A second tactic is to establish a chain of evidence (p. 37). . . The third tactic is to have the draft case study report reviewed by key informants (p. 38).

The tactics stated above are addressed in the section of this chapter dealing with data collection and management. The unique strength of the case study method as used in an ecological systems framework is "its ability to deal with a full variety of evidence -- documents, artifacts, interviews, and observations" (p. 20).

Internal validity is a major concern for causal studies. Internal validity is threatened if an investigator incorrectly concludes that there is a causal relationship between (x) and (y) without knowing that some third factor -(z)- may actually have caused (y) (Yin, 1984). According to Yin "this logic is inapplicable to descriptive or exploratory studies which are not concerned with making causal statements" (1984, p. 38). Yin (1984) purports that the analytic tactics of pattern matching and explanation building are viable ways to address validity issues. These strategies are discussed in procedures for analysis, considered later in this chapter.

The second tactic suggested by Yin (1984, p.37), "establishing a chain of evidence," in addition to dealing with issues of construct validity, also increases the reliability of the information in the case study. An auditor should be able "to move from one portion of the case study to another with clear cross-referencing to methodological procedures and to the resulting evidence. This is the ultimate chain of evidence that is desired" (p.97). The author of this dissertation interprets the term "chain of evidence" (p. 97), as defined by Yin

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(1984), to imply the notion of a web of evidence, interlocking rather than linear. Methodological procedures are detailed in the section of this chapter entitled "Data Management."

As a third tactic Yin (1984) recommends that the draft case study report be reviewed by key informants. This was accomplished on an on-going basis with each of the three families involved in the broader study. This researcher's analysis of values and resource management began after data collection was completed. The proximity, availability, and willingness of the informants to have their data used for this study is presented as an important deciding factor in selecting the participant family for this dissertation research. Bearing in mind Yin's first and second tactics, the data selected from this family's case study include multiple sources of evidence with convergent lines of inquiry.

Data Collection and Management in the Context of the Larger Study

Prior to data gathering for the multiple case study the University committee responsible for monitoring the protection of the rights of human research participants reviewed the research proposal and granted approval to conduct the research. Renewal of approval and inclusion of this investigator was sought and obtained in subsequent years through the present year (See Appendix A). The research participant consent form is also included in Appendix A.

Data collection and management procedures are presented here, including the procedures for the multiple case study design as used for the broader project. A portion of the data collected from the Hardings

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was selected as a single case study. Procedures for synthesis of selected data are unique to this dissertation.

Data Collection

Data for this case study research were provided by adults (both wife and husband) from the participant family. The major portion of the data used for this dissertation came from a series of family interviews and from the participant family's farm operation proposal. Selected data used to clarify and confirm interview data included responses to questionnaires and information gathered from other assessment tools and records. Summary tables describing the content and purpose of assessment tools, records, and family interviews were developed by Sontag and Bubolz (refer to Appendix C, Tables 1, 2, and 3). A chronology of major data collection points was also developed. Refer to Appendix B, Research Chronology. Types of data used are described below as summarized from Sontag, Bubolz, Abler and Clifford (In Progress).

Farm Operation Proposal. The proposal, submitted by the family prior to the selection of participants in the larger project, provided baseline data about the family's plans, goals, and expectations.

Family Interviews: A series of family interviews were conducted: seven interviews the first year, eight the second, and two in the first six months of the family's third year on the farm. Husband and wife were both present for all interviews as were two to three researchers. Each interview was semi-structured in nature with general questions which focused on a specific topic. The interview took the form of a small group discussion. At the beginning of each interview the research participant family members communicated with the investigators

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concerning events that had occurred since the former interview. Field notes were taken by a researcher who, for the most part, was a silent observer. Setting, non-verbal communication, and interaction involving children and/or adults was noted. Interviews were taped and later transcribed. If either researchers or members of the family expressed that information was of a confidential nature and warranted privacy the tape recorder was turned off and the information was not recorded. For this study interviews with the participant family on topics related to values, goals, decision making, and resource exchange were closely scrutinized. Relevant information from other interviews was also considered.

Questionnaires. Various instruments within two questionnaires provided information about family structure and individual family member characteristics. In order to determine change over time, Questionnaires A and B were administered to each family at baseline (prior to the family's move to the farm), and at six, eighteen, and thirty months after the family's move to the farm. For the baseline questionnaires specific sections were designed to obtain information about individual expectations, including anticipated or ideal situations. These sections (deleted at six, eighteen, and thirty month administrations) were later used to assess the degree to which expectations were met.

Other Assessment Tools. Other techniques for assessment included ecomaps, a genogram, a floor plan of the interior of the family home, a heritage trunk, and photographs. The ecomap as an assessment tool provides information about a family's connections with its environment (Hartman, 1979; Holman, 1983). An adaptation of Hartman's ecomap model

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was used in this research to illustrate the specific resources exchanged with various support systems. Refer to Appendix D for a simulation of an ecomap as constructed for this research project (Sontag, Bubolz, Abler, and Clifford, In Progress). The family prepared an ecomap in the sixth month of residency, another ecomap was developed one year later, and a third ecomap the following year. The ecomaps provided information about variations in support systems and resource exchange patterns over time. The genogram (Hartman, 1979; Holman, 1983; McGoldrick and Gerson, 1985) displays family information over three generations. The genogram (constructed once prior to an interview on family history) provided information about family kinship, occupations, losses, migrations, special events, role assignments, and communication patterns. The floor plan of the interior of the family home provided a graphic display of the family's use of household space. The floor plan was constructed once prior to an interview on the meaning and use of the built environment. The heritage trunk as an ecological assessment tool (Nelson, 1984)² was presented to the participant family as a symbolic metaphor with no physical dimensions. Prior to an interview on parenting, family members were asked to think about their own heritage and the heritage they wished to hand on to their children. Individually, wife and husband developed their own list of five treasured artifacts or symbolic objects. From this list of ten items a

²Nelson developed the heritage trunk as an ecological assessment tool from several different sources and used the instrument in class presentations which this author attended Summer, 1984. Nelson's design was adapted for this research. The originator of the term, heritage trunk, is unknown.

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combined list of six items was established. Information concerning the underlying meaning of each item was shared with the researchers. The heritage trunk provides information about family values as well as each individual's orientation to the past, present, or future. A series of photographs of the family's home and farm were used as an assessment tool to visually capture specific aspects of the environment over time.

Records: Data were obtained from six types of record:³

- 1) The Daily Activity Record provided information about allocation of time and division of labor for household, farm, and off-farm activities during representative composite weeks. Time use data were recorded on the Daily Activity Record by each individual adult member of the family on the basis of 24 hours per day, one day per week, for seven weeks. Successive days in the week were selected as "test days." This procedure was repeated four times per year during February-March, May-June, August-September, and November-December. Daily activity data were recorded over a period of nine composite weeks or "time series" from November 9, 1984 through December 27, 1986.
- 2) The Nonroutine and Seasonal Activity Record provided information about time spent on farm and home activities of one half hour or more in duration, that did not occur on a daily or weekly basis throughout the calendar year. Each individual kept a daily record of total hours spent performing each nonroutine and/or seasonal activity, including a description of the activity.
- 3) The Changes in Major Routine Activity Record identified the

³Descriptions of types of records are adapted from Sontag, Bubolz, Ler, and Clifford (In Progress).

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beginning and ending of major routine activities. The family kept a record of the starting and ending date of each major activity that had been or became a part of the family's daily or weekly routine. A brief description of the activity was recorded (e.g., beginning or ending a job, volunteer work, a business enterprise or farming activity).

4) The External Contact Record provided information about the family's support systems and resources, specifically the types of inputs obtained from outside the family related to the family's agricultural enterprise, the near environment of the farm, and the family's home based business. For a two-and-a-half year period the family kept a record of contacts with sources outside the immediate family. A record was kept of the date on which the contact took place, the type, mode, and purpose of the contact, who initiated the contact (contactor), who was contacted (contactee), the input received, and whether future contacts were necessary.

5) Production record-keeping procedures were developed to document farm and household production processes and activities. The research participant families and the researchers cooperated in the development of production record-keeping procedures suitable for each family's small scale farm operation. The production records were developed over time to aid the family in the decision-making process. By the completion of the data collection period a satisfactory record-keeping format had been developed which could be used in subsequent research with farm families. Due to the developmental aspects of these records data from production records were not used for this dissertation research.

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financial transactions related to the household and farm. Financial data selected for analysis for this dissertation include a hand-written ledger developed by the participant family, who kept a running account of farm income and expenses. This record was voluntarily released for the purpose of analysis. The family developed four major expense categories: (1) machinery (leased or purchased) and machinery maintenance including fuel; (2) cropping costs including seed, fertilizer, and harvesting; (3) livestock costs including feed and veterinary expenses; and (4) expenses for outbuildings and fencing.

Procedures for Analysis

The collection of data described above encompasses a variety of research methods. An approach to analysis was needed which could accommodate both quantitative and qualitative data. Because of the large volume of data gathered, preliminary analysis of the various types of data preceded attempts to integrate and synthesize the multiple sources of information.⁴

Farm Operation Proposal. The farm operation proposal was summarized with emphasis on the family's goals in relationship to the small farm lifestyle and participation in the project. For the purposes of this dissertation key statements were analyzed and coded for values and resource management content.

Family Interviews: Recorded interviews were transcribed by a central secretarial service at the University. The researchers listened to the tapes and corrected the transcripts when appropriate. Attempts

⁴Procedures for preliminary analyses are adapted and summarized from Sontag, Bubolz, Abler, and Clifford (In Progress).

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were made to exactly transcribe every word of conversation. Grounded theory methodology (Glaser and Strauss, 1967) was used to identify major themes and conceptual categories. The interviews were initially coded by three researchers. The codes were developed on the basis of the conceptual model for the total research project. The categories relevant to this dissertation - values and goals, resource use and exchange, and management and decision making were among the key variables listed. Data from interviews were later integrated with data from assessment tools and records.

Questionnaires. Computer programs were designed to facilitate analysis of questionnaire data. Categories and coding schemes were developed. Some of the data were hand tabulated. Questionnaires were an additional source of information about family roles, decision making and resource management, as well as individual goals and expectation. The Questionnaires provided information as follows:

- 1) Questionnaire A provided information about the extent of participation of both husband and wife (alone, with others or not at all) in decision making and household tasks; perceived allocation of time for 120 activities grouped into 22 categories; perceptions regarding the use of money for 88 activities, grouped into 22 categories; other anticipated changes resulting from living on a small scale farm (i.e., changes in type and amount of clothing needed since the move to the farm as well as changes in special family activities [celebrating holidays, birthdays, and anniversaries]); and perceived level of skill (none, low, medium, high) "now have" and "will need" for 17 categories of skills related to farming. Frequency distributions,

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medians, and modes were computed for degree of self-involvement in decision making, household tasks, time and money use, and skill levels.

2) Questionnaire B provided information about familial characteristics and resources. Sections of the questionnaire included:

a) Feelings About Life: An adaptation of Affective Evaluation of Life Concerns (Andrews and Withey, 1976). This instrument provided information about individual perceptions of quality of life measured on a 7-point scale ranging from "delighted" (7) to "terrible" (1).

Questions related to the farm lifestyle were added.

b) Family Description: Faces II, Couples Form (Olson, Portner, and Bell, 1982), a 30 item self-report instrument designed to measure individual perceptions of family cohesion and adaptability. The couples form was used because the family did not have children at the beginning of the research project. Individual family members responded to questions according to perceptions of present family functioning and again according to their perception of an ideal for their family. Responses to statements about adaptability and cohesion were measured through the use of a 5-point scale ranging from "almost never" (1) "to almost always" (5). Individual scores were compared over time.

c) Other Feelings About Life: An adaptation of the Self-anchoring Ladder of Satisfaction (Cantril, 1965). Individuals were asked to rate their overall life, family life, and work life using a 10 rung ladder with the top rung representing "best possible life" (10) and the bottom rung "worst possible life" (1). Respondents were asked to rate present life as well as future life and to write a brief explanation for each response. Responses were analyzed in conjunction with findings from

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d) Feelings About Yourself: This section consisted of two instruments.

Items 4.1-4.10: New York Self-Esteem Scale (Rosenberg, 1979) consisted of 10 items with an ordinal response scale. Respondents were asked if they strongly agreed, agreed, disagreed, or strongly disagreed with 10 statements which describe feeling about the self. A Likert score was calculated by computing a simple sum of the items after reversing the values for items stated in negative form. Male and female self-esteem scores were examined and compared to observe changing patterns over time.

Items 5.1-5.29: Rotter's Internal-External (I-E) Locus of Control Scale (Rotter, 1966) consisted of 23 I-E question pairs, using a forced-choice format, plus six filler questions. Analysis consists of comparing internal control statements with external control statements. One point is given for each external control statement selected. Missing data (i.e., no response to an item or both responses checked) were noted in computing I-E scores and a mean item score was calculated and substituted for the missing data. If the respondent failed to answer three or more questions, a locus of control score was not calculated. Patterns of increasing, decreasing, or fluctuating locus of control scores (over time) were noted.

e) Your Family Situation: Open-ended questions providing biographical data including information about educational, personal enrichment, and occupational activities in which respondents were engaged at the time the questionnaire was administered (baseline, 6 months, 18 months, and 30 months). Biographical data were summarized at each data collection

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point and later analyzed in conjunction with interview data.

Information from the Baseline and Six Month Questionnaire was used for this dissertation research.

Other Assessment Tools. Data from the genogram, floor plan, heritage trunk, photographs, and ecomaps were summarized in conjunction with the analysis of the interviews in which these assessment tools were discussed. A methodology was developed for comparing information obtained from ecomaps (Clifford and Bubolz, 1987). Refer to Appendix D for a simulation of an ecomap. Support systems were classified as formal, informal, or semiformal. Refer to Appendix E, Human Support Systems. Types of resources exchanged with each kind of support system were identified. The relative importance of the support system and resources exchanged with each support system were noted.

Records. Data from the daily activity record, the nonroutine and seasonal activity record, and external contact record were coded and entered into the computer. Hand tabulation was used to summarize the other records. Activity categories were developed for the daily activity record and the nonroutine and seasonal activity record. A spread sheet program was used to calculate time spent in various categories. For the external contact record, the actual frequency of contacts by purpose and time period, contactor (who made the contact), contactee (who was contacted), planned and not planned, and contact mode (in person, phone, or letter) was calculated.

To facilitate synthesis of data for analysis of the nonroutine and Seasonal Activity Record, the Changes in Major Routine Activity Record, and External Contact Record, time periods were established so that each

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time period included the dates for the Daily Activity Record Time Series. Information from all of these records made it possible to examine convergent lines of inquiry as Yin (1984) suggests.

Research Process for the Dissertation Study

According to Glaser and Strauss (1967), "In discovering theory, one generates conceptual properties from evidence; then the evidence from which the category emerged is used to illustrate the concept" (p. 23). Glaser and Strauss (1967) also discuss the relation of insight to theorizing from data and point out the fruitfulness of insights from existing theory. "They propose that a combination of both (insights generated by the qualitative research and insights derived from existing theory) is definitely desirable" (p. 253).

No sociologist can possibly erase from his mind all the theory he knows before he begins his research. Indeed the trick is to line up what one takes as theoretically possible or probable with what one is findings in the field. Such existing sources of insights are to be cultivated (p. 253).

During several phases of data analysis for this dissertation, examination of data led to the selection of various theoretical frameworks to organize the data. In the process of developing codes for the data, the author's insights were transformed into relevant categories through the application of existing theoretical perspectives. During the first phase of data analysis, a preliminary integrative conceptual framework was developed (Clifford, 1989). This conceptual framework was expanded as the process of data analysis continued. The

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evolving realization that the data could be interpreted and the concepts illustrated through application of the theoretical perspectives (described in Chapter II) eventually led to the discovery of the interrelationship between the concepts. A web of evidence from multiple sources resulted in the generation of hypotheses concerning the interrelationship between values and resource management. Various existing theoretical perspectives were used to illustrate the concepts but hypotheses concerning the interrelationship between the concepts came from the data and were systematically worked out in relation to the data, as suggested by Glaser and Strauss (1967).

Description of the Research Process: Data Organization and Synthesis

Organization and synthesis of data was an emergent process involving (a) integration of quantitative and qualitative data; (b) integration of various theoretical perspectives to interpret the data (c) developing a preliminary descriptive analytical schema; (d) identifying patterns of conceptual relationships observed (pattern matching) and constructing preliminary hypotheses; (e) consolidating the hypotheses; and (f) proposing a preliminary theory and model of the interrelationship between values and resource management processes.

The research process encompassed the following phases and activities:

- 1) The author of this dissertation became familiar with the multiple forms of data collected for the small scale farms research project. As a research assistant, the author participated in coding, analyzing, and summarizing data for a period of approximately three years.
- 2) As described in the previous section, 17 interviews with the Hardings

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were coded by three researchers for the purposes of the larger research project. Each researcher kept a card file of references to statements made by the Hardings. The files were arranged according to topic categories which included values and resource management.

3) The author began the dissertation research with an openness to all of the data collected for the family->farms research project and with a broad human ecological perspective.

4) As a starting point for this dissertation research, Interview One, Values and Goals, was coded by the author using a method described by Bogden and Biklin (1982), in their book Qualitative Research for Education: An Introduction to Theory and Methods. Statements which the author perceived as having values content were cut out and pasted on 5 by 7 cards. At that time, values were broadly defined as conceptions of the beneficial, based on Rescher's (1982) Introduction to Value Theory. After several attempts to sort the values content of the interview, a decision was made to sort according to Rescher's classification of values by the nature of the benefit. The author realized that values content could also be resorted by type of need expressed and by target goals (affect, power, and meaning), as described by Kantor and Lehr (1975). Based on the relationships observed in the data, Maslow's hierarchy of needs was modified to include physical/security, psycho-social, and self-actualization needs. Observation of the interrelationship between needs, values, and goals led to the development of a preliminary integrative framework of human needs, values, goals, and resource channels (Clifford, 1989). The relationship between values and resource management was at that time very undefined.

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The author was uncertain whether Kantor and Lehr's (1975) framework could be applicable to a study of values and resource management.

5) The first draft of Chapters I, II, and III of the dissertation was written. These chapters were subsequently rewritten several times to accommodate the emergence of the integrative conceptual framework.

6) The Hardings' proposal for a small scale family farm was summarized. The author noted that within the context of the proposal the Hardings spelled out their vision of the good life. Information from the Hardings' proposal was seen as consonant with Rescher's (1982) proposal that values are very much bound up with a vision of the good life. The Hardings also spelled out the resources they thought were needed for realization of the good life. The author began to look for resource management concepts as well as values concepts in the Hardings' statements.

7) A beginning matrix of interrelated concepts (Table 1)⁵ was developed which included and expanded the conceptual framework of needs, values, goals, and resource channels to include types of resources (Foa and Foa, 1974) and access mechanisms (Kantor and Lehr, 1975). This categorizing matrix was developed to organize and clarify data interpretation.

8) An interview with the Hardings on the topic of family history and background, including a discussion of the family genogram, was summarized and interpreted in relationship to information on this topic gleaned from other interviews, questionnaires, records, and assessment tools. Based on this data a descriptive account of the Hardings' family

⁵Tables referred to are presented in Chapter IV.

history and background was written, interpreted, and coded using the second matrix of interrelated concepts (Table 2) as an organizing framework. Data interpretation continued to be clarified through this process.

9) Data previously coded from Interview One, Values and Goals were presented in a descriptive account of the Hardings' first year on the farm. This descriptive account also included data from Interview Six, Decision Making and Resource Management, as well as data from other interviews (previously coded by the author and other members of the research team as containing values or resource management content). Data from the two major topic interviews were integrated with data from questionnaires, other assessment tools, and records to present the descriptive summary account of the Hardings' first year on the farm. The summary account was organized according to topic questions used for the two major interviews (One and Six). Data from other interviews, records, questionnaires, and assessment tools were included to enrich, clarify, contradict, or support data from Interview One and Interview Six. Quotations and descriptive statements from the summary account were then coded using the matrix format (Table 3).

10) Information from the matrices was organized into a final matrix of interrelated concepts by needs (Table 4). The series of matrices served as an organizing framework which clarified and supported data interpretation. Convergent lines of inquiry (from interviews, records, questionnaires, and other assessment tools) supported the relationships noted in the matrices.

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A process of integration and pattern matching contributed to the development of grounded theory.

Summary, specific information from interviews was used in conjunction with questionnaires, other assessment tools, and records in an attempt to establish a web of evidence regarding the interrelationship between human values and resource management.

Selection and Coding

Robert Glossop (1988), commenting on the validity of ecological research, points out:

. . . the validity of ecological research hinges on the extent to which a research study proceeds explicitly from a phenomenological sensitivity to "the subject's definition of the situation" and to the knowledge and initiative of the persons in the study (p. 32).

In this challenge in mind in the following chapter the author of this dissertation draws heavily from the expressed knowledge and initiative of the participant couple, Ted and Joanne Harding.

Since there was such a large volume of data it was impossible to transcribe all of the Hardings' statements in the interviews, or all of the data from records and assessment tools. For example, several transcribed interviews were in excess of one hundred pages. A decision was made to use representative statements from the large volume of data collected from the Hardings. For the most part, these statements came from the Hardings' proposal for participation in the project and key interviews (Family History and Background, Values and Goals, Decision

⁶Glaser and Strauss (1967) use the term hypotheses for these preliminary propositions.

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making and Resource Management). These data were selected because these topics are directly related to the central concepts of this study. As stated in the prior description of the research process, data from other interviews, records, questionnaires, and assessment tools were synthesized with data from the proposal and key topic interviews in a descriptive summary account of the Hardings' life on the farm (Chapter 4, The Harding Family->Farm Ecosystem). From this summary account, quotations and descriptive statements which contained explicit or implicit reference to both values and resource management concepts were then selected for further analysis.

The process of analysis began with an openness to all the data collected from the Hardings during the course of the project. As analysis, synthesis, and the grounded theory process were underway it became apparent that data related to values, resource management, and decision making began to recur and similar patterns emerged. Glaser and Strauss (1987) state that "when data do not reveal new aspects or relationships or when conceptual categories are repeated, categories are theoretically saturated" (pp. 111-112). At this point it was decided that analysis of data collected during the Hardings' first year on the farm was sufficient for the purposes of this dissertation. It was deemed that certain kinds of data were saturated.

As described previously, quotations and descriptive statements were coded according to the classification of resources, needs, etc. from the theoretical frameworks employed. Prior to formal coding, the opinion of an expert familiar with the conceptual frameworks adapted for this dissertation was sought to clarify the author's interpretation of

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the data and use of the matrix format. Fifty-nine statements from the summary accounts were coded by the author. Fifteen of these fifty statements were randomly selected and coded by two independent coders. The two coders were doctoral candidates, familiar with the conceptual categories. They were given instructions for coding and were provided with the definitions of the variables as presented in this dissertation.

The coding schema consisted of seven categories of variables (Appendix, Table F1). The range of possible codes for each of the seven categories was from a low of three possible response codes per statement (e.g., power, affect, and/or meaning target goals) to a high of twenty-one (e.g., the values benefits category) for a total of fifty-four possible codes for each of the fifteen statements. Fifteen statements across the seven categories totaled 810 possible response codes. Coder A agreed with this dissertation researcher concerning the inclusion or exclusion of 633 of the 810 codes (78 percent agreement across all categories and all randomly selected statements). Coder B agreed with the researcher on 624 of the 810 possible codes (77 percent agreement). There was a high rate of agreement among this researcher and both Coder A and Coder B on statements with more explicit reference to the variables (e.g., 96 percent and 95 percent agreement respectively across all categories). Coders tended to be more subjective regarding statements containing implicit reference to the variables. For example, with respect to values benefits it was noted that Coder A, who has a background in nursing, tended to see "health" implied in statements more frequently than did this researcher or Coder B. Coder B, who has a background in art, tended to see "aesthetic" values [e.g., symmetry]

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Of its nature qualitative research is subjective. Its aim is to generate hypotheses to be tested in later research efforts. It is noted that although the matrices developed in the course of analysis are not values free, they contributed to the process of integration and added another source of inquiry to the multiple sources used in this research.

In Chapter IV a descriptive chronosystem framework is used to relay to the reader the information provided by the Harding family. Bronfrenbrenner (1986) describes a chronosystem design for ecological research as one that permits analysis of the dynamic relation between human->environment processes over time. Preliminary hypotheses are developed as information is synthesized. In Chapter V an integrative framework is further developed to illustrate the relationship between processes, particularly pertaining to the interrelationship between values and resource management. Hypotheses are presented as general preliminary propositions as part of a grounded theory.

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CHAPTER IV

THE HARDING FAMILY<->FARM ECOSYSTEM

Introduction

When Ted and Joanne Harding agreed to become participants in the small scale farm research project, they entered into an in-depth study of their own family system embedded within a small scale farm environment, what has been referred to as the family<->farm ecosystem. Their story, revealed in the extensive amount of data collected for this research project, is filled with expressions of human values. It is also replete with evidence of how they went about managing their resources. The Hardings' story begins with an introduction to the family through their proposal for a small scale farm operation.

The Hardings' Proposal

Participation in the research project began for Ted and Joanne Harding in 1984 with the acceptance of their proposal for a small scale farm operation. Excerpts from the Hardings' proposal are presented as a means of introducing the reader to the family, to their goals in relationship to the objectives of the project, and to the underlying values expressed in the context of the proposal. The following

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quotations are from the opening paragraphs of the Hardings' proposal.¹

We first heard of the small scale farm project two years ago at the 1981 Harvest Festival. . . As Dr. Renaud explained it, the purpose of the project is to develop an understanding of the needs of small farmers, to research and assess alternatives available to small farmers, to develop demonstration and assistance programs and to enhance self-sufficiency.

To hear that the University was undertaking a project to help small farmers was very exciting. It seemed college classes and research had always been geared to large commercial farmers and agribusiness. Did the University finally realize that small farmers were becoming a vital and growing force in today's agriculture? We thought at that time that this was something we would like to become involved in.

We are both graduates of the College of Agriculture and Natural Resources. Ted received his degree in Environmental Interpretation from the Parks and Recreation Department and Joanne graduated with a degree in Animal Husbandry (Harding Proposal, p.1).

The Hardings provided a brief summary of their employment history.

¹Statements from the proposal are direct quotations with the following exceptions: The name of the University and specific locations are deleted from the text. Names of people have been changed or deleted.

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After college graduation, Ted and Joanne became managers of a public campground for two years. In 1979 they changed occupation and location. Ted did construction work and Joanne worked as a teller for a Savings and Loan office. A year later Ted was hired as a Youth Specialist at a halfway House in another city. Joanne worked as a library assistant in the General Reference Department of the local public library.

The Hardings explained that they were searching for a way to realize their dream for "a place in the country."

All this time we had one goal in mind, to save enough money to buy a place in the country and raise our own food. In the spring of 1981 we achieved our goal with the purchase of a small acreage. We now grow most of our food and raise chickens for meat and eggs (Harding Proposal, p. 1).

Ted and Joanne encountered many problems as they attempted to realize their dream. They assumed that other organic gardeners and farmers faced the same hardships and shared similar experiences. The Hardings' major complaint, as spelled out in their proposal, was the lack of information geared to small scale production practices and the lack of resources. "We called three grain elevators before finding one that would special order fish meal and two more before finding a supply of wheat we could purchase by the hundredweight," explained Joanne (p.2). The frustrations they experienced motivated the Hardings to write an application to join others in addressing the concerns of small scale farmers. The Hardings clearly stated their hopes and expectations relative to participation in the project.

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produce his own food economically and efficiently without the use of chemical fertilizers, herbicides, or feed additives. We would like to see the development of a rural resource education center and a system for getting information on alternative technology and production methods to the small farmer.

The production techniques used by the small farmer must be socially acceptable to the rural community. The project should foster a working network of all farmers.

Alternatives for increased income on the small farm must also be explored. A home business using our own talents of small engine repair or quilting could be established.

We expect the project to act as a testing ground for new varieties of food crops and livestock that would benefit the labor-intensive small farm.

As small-scale farming specialists we would work together with the research team and the small farms advisory council to address these and other concerns of small farmers (Harding Proposal, p. 2).

The Hardings presented a plan for a labor-intensive, integrated farm and garden on a five acre site, but also included a proposal for a ewe flock operation on a site with more acreage. They would raise Corriedales, "a general purpose breed combining reasonable hardiness and prolificacy with a good carcass and a dense fleece of high quality wool" (p. 20). This plan was for 23 acres including 1/2 acre for house and

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barn; 1/4 acre of garden; 1/4 acre of herbs; 6 acres of alfalfa; 6 acres of grains (corn, oats, wheat); and 10 acres of pasture. The existing barn on the 20 acre site was adequate for the proposed operation and with slight adjustment the property could accommodate the Hardings' broader plan. Their proposal was accepted.

In their proposal the Hardings detailed the needed equipment, costs, and stages of development for the operation of a homestead that would supply most of the food for the family and their livestock. According to the plan, livestock would eventually include the following:

30 Rhode Island Red laying hens

2 feeder pigs per year

4 New Zealand rabbits (3 does; 1 buck and building the stock to 50-60 rabbits a year)

1 Jersey cow

40 ewes (Corriedales) and a ram

The vegetable garden 50 feet by 105 feet, divided into seven 15 feet wide plots planted in rotation, would supply the family with peas, green beans, shell beans, spinach, lettuce, radishes, cabbage, broccoli, sweet corn, zucchini, winter squash, melons, peppers, tomatoes, onions, carrots, parsnips, leeks, and potatoes. A plot 50 feet by 15 feet would be set aside for perennials, asparagus, and rhubarb. Another plot 50 feet by 20 feet would be prepared for strawberries, raspberries, and blackberries. No chemical fertilizers, herbicides, or insecticides would be used on the crops. The animals would be fed on organically grown hay and grains, and any garden surplus as well. In return they would furnish an adequate supply of meat, eggs, and dairy products. A

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hive of bees would supply the family with honey and beeswax. The Hardings also hoped to establish a quarter acre herb garden which could supply a small cash income.

The Hardings expressed the realization that their plan would require a substantial amount of capital to establish. They acknowledged that the expected return on this investment would not be in cash income. The desired return would be "in fresh, wholesome food, improved health and well being, pleasant surroundings, and a wonderful sense of security and independence" (Harding Proposal, p. 3).

Interpretation of the Proposal

The Hardings' "vision of the good life" is revealed in their description of their dream for "a place in the country." The small scale farm which Ted and Joanne idealized is seen by the author of this dissertation as the dominant life theme within which they integrated individual and family values and resources.

As expressed in their proposal the small scale farm was central to the Hardings' vision of the good life. They identified with other small scale farmers and, in three specific statements, expressed their perception of the needs of the small scale farmer. These statements were selected because implicit reference is made to physical/security, psycho-social, and self-actualization needs and related value benefits. The Hardings also implicitly or explicitly allude to the six types of resources described by Foa and Foa (1974).

Three key statements from the Hardings' proposal are interpreted according to the type of resource implicated; access mechanisms involved; and the Integrative Framework of Human Needs, Values, Goals,

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and Resource Channels (see Figure 1). This framework is used throughout the dissertation for analysis and interpretation. Also refer to the definition of the six classes of resources considered in the Foa and Foa model of resource exchange (see page 13 of this dissertation) and definitions of access mechanisms summarized from Kantor and Lehr (1975) (see dissertation pages 39-40). Each of the three key quotations is followed by the author's interpretation of the statement. A summary list of related concepts implied in each of the Hardings' key statements follows the author's interpretation of the quotation. A beginning matrix for conceptual integration and synthesis is developed from a compilation of the summary lists of related concepts. This matrix is presented as a part of the synopsis of data interpretation at the end of the discussion of the Hardings' proposal.

The three key quotations are presented and interpreted below.

1. "The small scale farmer needs information on how to produce his own food economically and efficiently without the use of chemical fertilizers, herbicides, or feed additives. We would like to see the development of a resource education center and a system of getting information on alternative technology to the small farm."

Interpretation: In the above statement information can be seen as a resource which the Hardings perceived would give small scale farmers the "power" to meet physical/security needs and to realize specific values benefits, namely, economic productiveness and physical health. It is assumed, from statements made throughout the proposal, that physical health was a major underlying reason why the Hardings valued

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uncontaminated food. Food is considered here as tangible goods in terms of the Foa and Foa model.

The Hardings expressed a desire for a resource center and a system of getting information to other farmers. The resource center as a centering operation (access mechanism - centering), a space dimension according to Kantor and Lehr, could operate as a glue which would bind small scale farmers together into a cohesive whole, in order to accomplish what the Hardings expressed as a mutual goal, the "power" to produce healthful food. As suggested by the Hardings, access to this target goal could also be accomplished through time as a resource channel and the access mechanism of regulating, in terms of developing a system for regulating a flow of information to small scale farmers.

Summary List of Related Concepts:

Resources: Information and Goods
 Target Goals: Power
 Access Mechanisms: Centering and Regulating
 Resource Channels: Space and Time
 Needs: Physical/Security
 Values Domains: Physical and Material/Economic
 Values Benefits: Health, Economic Security, and Productiveness

2. "The production techniques used by the small farmer must be socially acceptable to the rural community. The project should foster a working network of all farmers."

Interpretation: Broadly interpreted, a working network and social acceptance require a certain degree of togetherness, courtesy, and neighborliness (social values benefits) as well as recognition and success (professional values benefits). These activities are associated with the noneconomic resources, affectionate regard (love) and status (evaluative judgments that convey high or low prestige), as described by

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Foa and Foa (1984). Psycho-social needs and social and sentimental values benefits, related to the target dimension "affect", come into play here. In the context of a network of farmers, the target dimension "meaning" might also be accessed through space (access dimension) as a resource channel and linking as an access mechanism. In order for a working network to emerge values benefits such as honesty, fairness, justice (moral/political values), intelligence and competence (intellectual values) are presumed essential. Realization of the above values could contribute to self-actualization in terms of consciousness of a sense of place or role in the environment. A "working network" implies transference of energy when the access mechanism, investing, is activated.

Summary List of Related Concepts:

Resources: Affectionate Regard and Status
 Target Goals: Affect and Meaning
 Access Mechanisms: Linking and Investing
 Resource Channels: Space and Energy
 Needs: Psycho-social and Self-actualization
 Values Domains: Sentimental, Social, Intellectual, Moral/Political
 Values Benefits: Acceptance, Togetherness, Courtesy, Neighborliness, Intelligence, Competence, Honesty, Justice, and Fairness

3. "Alternatives for increased income on the small farm must also be explored. A home business using our own talents of small engine repair or quilting could be established."

Interpretation: It is assumed that increased income will provide "power" to meet physical/security needs and realize economic value benefits (e.g., greater economic security). The suggestion to use their own talents in a home-based business that offers services indicates that Ted and Joanne were gauging how each might expend energy to be mobilized

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to meet both physical/security and self-actualization needs. The Hardings felt competent to invest energy in the performance of the tasks mentioned (small engine repair and quilting). They perceived that these services would be needed by others. Such realizations could contribute to self-actualization and a sense of "meaning" in life.

Summary List of Related Concepts:

Resources:	Money and Services
Target Goals:	Power and Meaning
Access Mechanisms:	Investing, Mobilizing, and "Alternatives . . ."
Resource Channels:	Energy
Needs:	Physical/Security and Self-actualization
Values Domains:	Material/Economic and Intellectual
Values Benefits:	Economic Security, Productiveness, and Competence

In summary, the Hardings' proposal provided a survey of their goals, hopes, and expectations; their needs and interests; and their perception of the basic resources needed to realize specific values. According to Rescher (1982), with each value there is associated a certain possible state of affairs which provides a benefit. Rescher (1982) proposed that the notion of benefits corresponds with human needs and interests.

Within three key statements, the Hardings implicitly spelled out a "state of affairs" which included management of the six classes of resources described by Foa and Foa (1974) and space, time, and energy resource channels (access dimensions) as well as specific access mechanisms (Kantor and Lehr, 1975). As presented in the three quotations analyzed, and supported by the complete proposal, the "state of affairs" proposed by the Hardings is seen as leading to realization of physical, material, economic, sentimental, social, professional, intellectual, moral/political values and corresponding benefits to meet

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physical/security, psycho-social, and self-actualization needs.

Preliminary Hypothesis and Beginning Matrix of Interrelated Concepts

In order to see more clearly the relationship among and between these concepts and to begin to build a theory of the interrelationship between human values and resource management, a beginning matrix for conceptual integration is presented in Table 1. The statement numbers correspond with the quotations (1, 2, and 3) from the Hardings' proposal analyzed previously. This matrix summarizes the concepts discussed.

The concepts presented are seen as integral to the development of grounded theory concerning the topic of this dissertation. Preliminary hypotheses are developed as relationships between variables emerge from the data. These preliminary hypotheses will be numbered consecutively throughout the dissertation. The matrix format is used to support data interpretation and to evolve theory from systematic analysis of data presented in each segment of this chapter. Family history and biographical data will be addressed in the next section, followed by an account of the first year of the Hardings' "Life on the Farm" in the subsequent section of this chapter.

Following is the first preliminary hypothesis, which is based on interpretation of "The Harding Proposal."

HYPOTHESIS:

1. Perception of values benefits is interrelated with perceptions of how to use economic and noneconomic resources to access specific target goals.

Table 1. Beginning Matrix of Interrelated Concepts: The Harding Proposal

STATEMENTS	RESOURCES	RESOURCE CHANNELS	ACCESS MECHANISMS	NEEDS	VALUES DOMAINS	VALUES BENEFITS	TARGET GOALS
1. *The small scale farmer needs information...to produce...food economically... resource education center...*	Information Goods Money	Space Time	Centering Clocking	Physical/Security	Physical/Material Economic	Health Economic Security Productiveness	Power
2. *The production techniques...socially acceptable...working networks of all farmers.*	Love Status Goods Information Services	Space Energy Time	Linking Investing Synchronizing	Psycho-social Self-actualization Physical/Security	Professional Sentimental Social Moral/Political Economic	Recognition Acceptance Togetherness Courtesy Neighborhoodness Honesty Justice Fairness Productiveness	Affect Meaning Power
3. *Alternatives for increased income... home business... using own talents...* could be established.*	Money Service	Energy	Investing Mobilizing	Physical/Security Self-actualization	Physical/Material Economic Intellectual	Economic Security Productiveness Competence	Power Meaning

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Family History and Background

Family history and background information about the Hardings were obtained from their proposal, the baseline questionnaire, the family genogram, the heritage trunk assessment tool, and family interviews. Statements that refer to resource management or values were identified. In the subsequent material these are bolded and numbered. Superscript numbers appear at the end of each identified statement. Interrelated concepts associated with each numbered statement are presented in a matrix in Table 2 at the end of this section. Segments of the quotations, specifically beginning and ending phrases, are included in the matrix to help the reader identify the statements in context. Abbreviated statements do not contain all of the identified concepts, explicitly or implicitly referred to, in the more complete quotations from the text.

According to Rescher (1972), if a person subscribes to a value, a certain type of verbal action is expected. "He would appeal to this value, both in the support and justification of his own (or other people's) actions" (p. 24). In the following account Ted and Joanne appeal to their heritage of values as related to the farm lifestyle and their vision of the good life.

The Hardings stated in their proposal that neither Ted nor Joanne had grown up on a farm. Ted grew up in a small town and Joanne in a medium size city. They lived in adjacent states but attended the same University, where they met and married in 1976. In addition to his bachelor's degree in environmental interpretation, Ted attained an associate's degree in parks and recreation administration. Ted also had

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training in welding, heating, and cooling. Aside from her bachelor's degree in animal husbandry, Joanne had completed a course in massage therapy. After working in various occupations for a period of 5 years, the Hardings had purchased a home with a small acreage and for three years they worked toward the realization of their dream for "a place in the country." At that time the Hardings' home was located in close proximity to Ted's extended family. His parents lived in a small town nearby and his two brothers and sister lived within a 30-40 mile radius of Ted and Joanne. Joanne's parents and her three sisters and brother lived in a nearby state several hundred miles west of the Hardings.

Ted and Joanne expressed on several occasions that they felt very emotionally close to their extended families and enjoyed their company.¹ The decision to participate in the research project required a move to the research farm site, 95 miles away from their former home and Ted's family of origin and about 60 miles closer to Joanne's family. Ted shared that although his mother found their move particularly difficult, she and his whole family were really interested in what he and Joanne were doing. "We still see them, we're still close",² said Ted (Interview 1, p. 17). Both Ted and Joanne felt that their families were open-minded and accepting of new ideas and experiences, including the Hardings' decision to participate in the small scale farm research project.

When they entered the project Ted was age 32 and Joanne was 28. What was it like for Ted and Joanne growing up? Where did they get their interest in farming and how did their families influence them?

Joanne: I think your family upbringing is really

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important. There has to be something. I didn't come from a farm background . . . We lived in the suburbs. I don't know why I'm attracted to the country . . . I wonder if it was my grandparents. Cause even though they did not live on a farm, when I knew them, both sets of them were raised on farms and worked farms (Interview 1, p. 31).

Ted: When I left for college I took off and moved my own way but the roots are still back there . . . I think I still have the same basic values (Interview 1, p. 30).

Ted felt that his mother had been a major influence in the formation of his character and his image of himself as a "nice guy."³

Ted: My Mom was the one that just basically gave me, what would you call it? Nice guy image or something (Interview 4, p. 67).

Joanne confirmed, "He is a nice guy. Sometimes it's been a real trouble for him though. . . . His mother has said, I raised my sons to be nice guys and sometimes they're too nice." Joanne felt that she had been influenced by her parents to be outspoken about her views and very assertive when she really believed in something, "like the small farms project." But for the most part she felt that she was also very open minded and accepting of other people's views. She said that she valued the kind of open mindedness Ted had.⁴

Ted expressed appreciation for his parents involvement with the

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family. He admired his mother's sense of fairness. "All of us kids, she had to be super fair with us" (Interview 4, p. 61).⁵ He sensed that family was very important to his father. Ted said that his Dad had been a carpenter and construction worker all his life. His work allowed him to stay close to home. His mother was a housewife and part-time cosmetologist. Both parents were very supportive of the children and got involved in community activities with youth.

Ted and Joanne praised their parents for encouraging them to develop their natural talents.

Ted: I really pat my parents on the back for getting us kids involved in 4-H and we were all in music and the whole thing. . . . Church and everything. . . . Encouraged to develop our natural talents. My dad was a scout leader and mom was a brownies leader and 4-H leader.⁶

Joanne: Same here. When we were kids we all had our special activities. My parents had their own nights and their own activities . . . and they still had time to run us to dancing lessons and piano lessons and everything else (Interview 4, p. 74).⁷

The Hardings felt that their brothers and sisters, although individually different, had developed basic values similar to theirs.

Ted: We all have the same values, you know. I can see that now. . . . I really am feeling closer to my brothers and sister now than when we were

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(Interview 4, p. 82).

Joanne: We're really different. But the more I think about it . . . even though we're separated now and we each have families . . . I'm finding out that we have a lot of the same basic values (p.79).

Ted has two brothers and a sister. "I'm the oldest son," said Ted. Joanne is the oldest in her family. She has three sisters and a brother. When talking about her closest sibling, a sister who is eighteen months younger, Joanne said "she's a city mouse" and "I'm a country mouse."
. . . "This is what I wanted someday, living and working on a farm."
She recalled a time when in eighth grade her parents gave her a horse.
"After bugging my parents for a year, they finally got me a horse and I thought it was super!" Joanne exclaimed.

Joanne felt that her paternal grandfather played a significant role in her life. In a discussion of the family genogram she talked at some length about her admiration of him for "his loving and accepting ways" (Interview 4, p. 54).

Joanne: Whatever you did, that's all right, you know.

We can fix it or we can work it out. . . Grandpa was just laid back and whatever was, that was fine (Interview 4, p. 54).⁸

Joanne identified with her grandfather, particularly with his loving, accepting attitude.

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Joanne: People that I've met say I'm so trusting and so naive about some things but that's the way Grandpa was! (Interview 4, p. 53).

She perceived that her parents were more driving and ambitious and eager for her to succeed. She experienced feeling "pushed at a very young age to stand up on my own two feet" (Interview 4, p. 48). Joanne felt that her parents encouraged her to be assertive while her grandfather affirmed the child in her.

Joanne: He would tell this story about when I was a baby, like every time we saw him and he'd tell the story and I'm sure everybody else was sick of hearing it but I'd laugh and smile (Interview 4, p. 53).⁹

Joanne remembered that her grandfather "loved his grandkids" (P. 54) and she felt that some of the special times they had together during her visits to her grandparents' home might have influenced her desire to live on a farm.

Joanne: We lived in the city all my life and every time I went over to Grandpa's house, not every time, a lot of times, he'd take us over to a farmer friend of his. . . and we'd ride ponies and I just loved it . . . We rode the ponies but there were pigs, and chickens, and cows, and everything else there so that's a very special memory. . . Grandpa took me to ride the pony so that's where I got my love for farming

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(Interview 4, p. 55).¹⁰

Joanne mentioned that although her grandfather had very little formal education, "He was up on current events, he had an opinion on everything, he was a self-educated man!" (p.56).¹¹ Both of Joanne's parents had formal education. Joanne's mother was a school teacher and her father a dentist. One of her grandmothers had been a teacher and the other a homemaker. Her grandfathers had been skilled workers in trades and industry. When Joanne was asked about her values with regard to education she replied:

Joanne: Well, formal education, I have my bachelor's in animal husbandry. When we got involved in this project, both our parents said, "oh, great! You're working with the University, you can get your master's." I thought, everything I want to do, I can do with a bachelor's. Now this may change, but for right now, as far as I'm concerned, I'm more than satisfied with my bachelor's. And I'm a massage therapist. I'd like to increase my education there, in fact I was thinking of taking a seminar on foot reflexology, which is a foot massage type of therapy. I'd like to keep going in that direction. I read a lot. I read the "New Farm" and any book I can get my hands on about sustainable agriculture. . . I like to keep up with what's coming out, new ideas and new things

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(Interview 1, p. 17).¹²

When Ted was asked about educational values his response was:

Ted: I'm learning a lot here. As far as formal education, I have no desire to go back to school. If I did, I would go into nursing which is way out of the ballpark ya'know, but that's the second goal I've set for myself if I ever do go back. But that's not even relevant. I'm learning a lot here, just by doing things (Interview 1, p. 17).¹³

In his discussion of the family genogram Ted expressed the view that similar to Joanne his grandfather had also played a significant role in his life and ideals. When referring to his maternal grandfather Ted spoke with a note of admiration in his voice.

Ted: He was just a person I idolized, you know. . . He was so sharp. . . so good with people. . . could work with anybody . . . kept everything cohesive . . . He was such a gentle person. . . really knew his stuff. . . just really intelligent. . . Grandpa was always special to me (Interview 4, p. 57).¹⁴

Ted said that he remembered his grandfather as a hard worker. His grandfather's hands made a deep and lasting impression on Ted.

Ted: The one thing I can remember is Grandpa's hands because he milked cows (p. 59). . . . I'll always remember his hands, okay! And that's what really inspired me because he had such strong hands. They were toughened, you know, like one thing I want to

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have before I die is hands like his. . . You know I want to work hard so I know that's how I'll get there.

That's just an ethic, you know (p. 76-77).¹⁵

Ted stated that although his grandfather did not directly influence him in the direction of farming, the desire to work hard and to use his hands in the performance of tasks like machinery maintenance were inspired by his grandfather. Ted's skills and values combined with a desire to work outdoors seemed to him to make farming a good fit.

Interpretation of Family History and Background Information

The Hardings' story of their family history expresses their heritage of values as related to Ted's and Joanne's vision of the good life. According to Kantor and Lehr (1975, p. 53):

It is through its affect-meaning interface that a family determines which of the lifestyle meanings of its members it will accept. . . . At this important interface, the family also expresses its feelings about its meanings and identity.

The Hardings' discussion of the genogram with emphasis on the significant influence of Ted's and Joanne's grandfathers illustrates a predominance of identity (meaning) issues and affect (intimacy and nurturance) issues.

Joanne delighted in her grandfather's repetition of a story about her childhood. She had a strong impression that Grandpa "loved his grandkids." She stated that it might have been her visits to Grandpa's friend's farm that inspired her interest in farming. Joanne seemed to experience family connectedness as well as positive personal identity during her visits to her grandparents' home. In eighth grade Joanne

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convinced her parents to buy her a horse. These are the years when identity issues are predominant. Grandpa's early and continuous affirmation of Joanne's identity, combined with her admiration of his loving, accepting nature, and her happy experiences with him on the farm may have contributed a great deal to her sense of self in relation to a farm lifestyle.

Ted's admiration for his maternal grandfather and his impression of the strength of his grandfather's hands, hands that had become strong from milking cows and hard work, significantly influenced his identity. Ted figured that if he wanted to have strong hands and be like Grandpa, then hard work was the way to get there. Ted's view was that farming demanded hard work and he had the mechanical skill, intelligence, good will, and incentive to invest his energies in the task.

With regard to education, at this point in their lives both Ted and Joanne seemed interested in informal self-education, learning by doing, rather than formal educational pursuits. Their statements about education (Interview 1) parallel their description of their grandfathers' education (Interview 4). Joanne commented in Interview 4, "He (Grandpa) was up on current events, he had an opinion on everything, he was a self-educated man!" In Interview 1 which was approximately four months earlier than Interview 4, Joanne said that she could be assertive when she really believed in something, that she liked to read and keep up on everything, and that she thought of herself as self-educated. Ted admired his grandfather because he got along with everyone, "so good with people" (had a nice guy image), and Grandpa was a hard worker, his hands strong and toughened from working outdoors.

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Ted spoke of his own "nice guy" image. He also said he liked working outdoors and learned by doing things with his hands. Ted didn't feel any immediate need for more formal education. A major goal was to develop strong hands like his grandfather's and that's what he intended to do on the farm. Ted stated that nursing was a second goal he set for himself, "if I ever go back," (for more formal education). But he added, "nursing is way out of the ballpark . . . not even relevant." According to Wendell Berry (1987, p. 123), "The farmer is necessarily a nurturer, a preserver of the health of creatures." Perhaps Ted's choice of the farmer's role was an integration of his inclination to care giving. In the discussion of their family genogram Ted and Joanne emphasized how important the family was to their parents and grandparents (e.g., doing things for and with their children, teaching, serving as youth group leaders, having employment close to home, spending time with family, being fair with children, and making sure that children were given opportunities to develop their talents).

The values domains associated with the Hardings' statements reveal in part the values framework that may have led to their choice of the farm lifestyle. The Hardings' values framework is seen as integral to their family<->farm ecosystem. Ted's and Joanne's family values framework as expressed from the story of the Hardings' family history and background includes the identified values domains and associated values benefits which are listed in Table 2.

In their discussion of the family genogram the Hardings' centered on the exchange of affectionate regard (e.g., with grandparents, parents, and siblings) and information (e.g., about themselves, the

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world, family). As presented in the Hardings' description of their grandfathers and their parents, affectionate regard and information can be underscored as significant resources related to the formation of values for both Ted and Joanne.

The emphasis on the significant interface between affectionate regard and information in values formation was also apparent in a discussion of the heritage the Hardings' wished to pass on to their heirs. The heritage trunk assessment tool was presented as a symbolic metaphor with no physical dimensions. Ted and Joanne completed the heritage trunk in June, 1986, during their second year on the farm.² The heritage trunk was discussed three months after the birth of their son, David. At that time Ted and Joanne were asked to independently make a prioritized list of three to five items each might put into a symbolic heritage trunk. Items chosen by the Hardings included: 1) a wedding ring, as a symbol of love; 2) photographs, which Joanne thought took on more importance now that David was born (She wanted to show him how much he was loved.); 3) books, including information about health; how to books; and philosophical books; 4) tools and equipment ("To put things together . . . makes a lot of things make more sense when you can understand how things are put together," explained Ted.); hunting and fishing equipment, to get something out of wilderness experiences. Ted emphasized that he felt his own instincts had been sharpened by his wilderness excursions and he wanted the same for his son. He exclaimed,

²Note: The heritage trunk assessment tool was discussed during the Hardings' second year on the farm. Because of its relevance to findings from the interpretation of family history and background, a decision was made to include a summary account of the heritage trunk discussion.

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"Just the way of keying into your instincts . . . just being out there."

The predominant access mechanisms implied in the discussion of the genogram and heritage trunk are 1) orienting (selecting, directing, and maintaining of attitudes); 2) linking (conceptual associations of persons within the family's spatial interior, focused on family members as bearers of targets); and 3) fueling (the acquiring of energy to move in a certain direction). Corresponding respective resource channels are 1) time, 2) space, and 3) energy (see Table 2).

Preliminary Hypothesis and Second Matrix of Interrelated Concepts

Table 2 (beginning on the following page) presents the second matrix of interrelated concepts. Listed below is the second preliminary hypothesis, which is generated from the interpretation of data related to the Hardings' "Family History and Background."

HYPOTHESIS:

2. Sentimental, social, moral/political, intellectual, and spiritual values are formed in relationships with significant others, at the affect-meaning interface, through processes involving the exchange of affectionate regard, information, and status.

Table 2. Second Matrix of Interrelated Concepts: Family History and Background

STATEMENTS	RESOURCES	RESOURCE CHANNELS	ACCESS MECHANISMS	NEEDS	VALUES DOMAINS	VALUES BENEFITS	TARGET GOALS
1. "Ted and Joanne ... enjoyed their company."	Love	Space	Linking	Psycho-social	Sentimental Social	Love Togetherness	Affect
2. "Ted shared... we're still close."	Love	Space	Linking	Psycho-social	Social	Togetherness	Affect
3. "Ted felt... a nice guy."	Status	Space Time	Centering Orienting	Psycho-social Self-actualization	Social Moral/Political	Courtesy Honesty Justice Fairness	Affect Meaning
4. "She felt open minded and accepting... valued open mindedness Ted had."	Status Love Information	Space	Linking	Psycho-social Self-actualization	Sentimental Intellectual	Acceptance Intelligence	Affect Meaning
5. "He admired his mother's ... fairness... with us."	Status	Time Space	Orienting Centering (guidelines for behavior)	Psycho-social Self-actualization	Social Moral/Political	Love Fairness	Affect Meaning

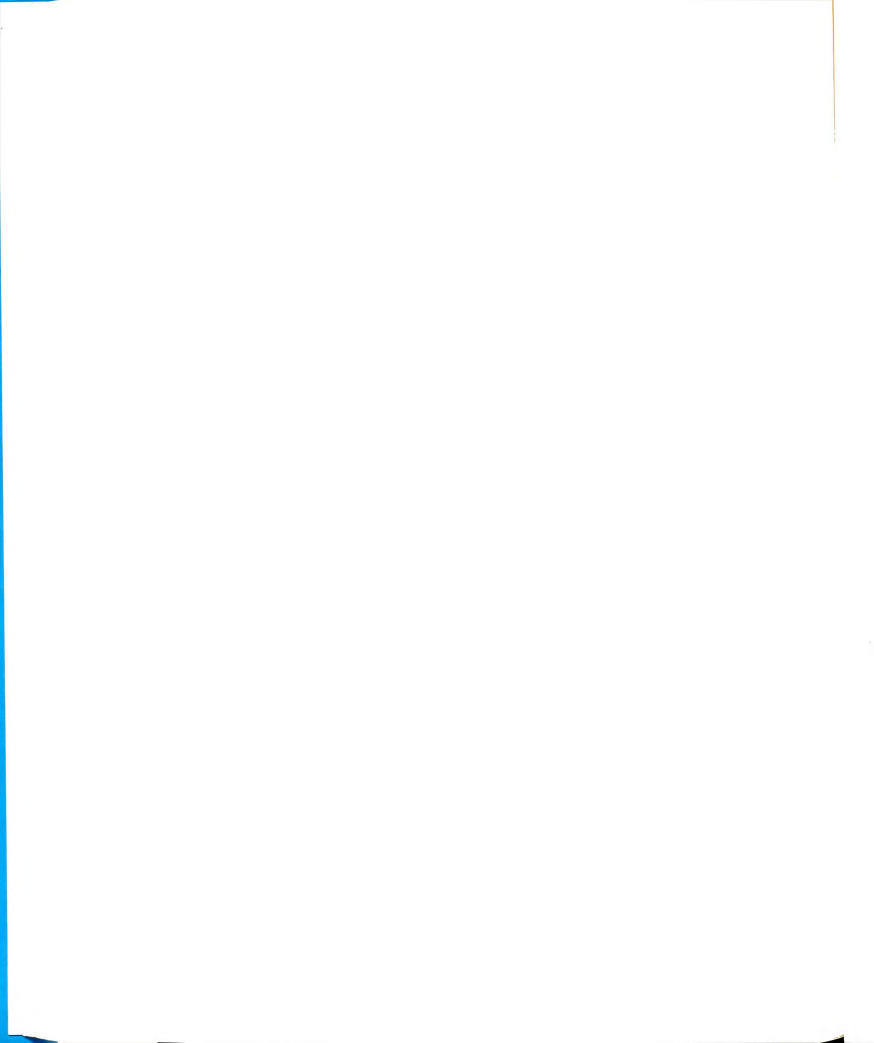


Table 2. (cont'd)

STATEMENTS	RESOURCES	RESOURCE CHANNELS	ACCESS MECHANISMS	NEEDS	VALUES DOMAINS	VALUES BENEFITS	TARGET GOALS
6. "I really pat my parents on the back ...4-H...music...church ...develop our natural talents...leader."	Information Love Status	Energy Space Time	Fueling Linking Orienting	Self-actualization Psycho-social	Intellectual Sentimental Professional	Intelligence Competence Love Recognition	Meaning Affect Power (skills)
7. "Same here ... lessons and everything else."	Information Love Status	Energy Space Time	Fueling Linking Orienting	Self-actualization Psycho-social	Intellectual Sentimental Professional	Intelligence Competence Love Recognition	Meaning Affect Power (skills)
8. "Whatever you did... that was fine."	Love Status	Space Time	Linking Orienting	Psycho-social Self-actualization	Sentimental Intellectual	Acceptance Love Competence	Affect Meaning
9. "He would tell story... I'd laugh and smile."	Love Status	Energy Time	Fueling Orienting	Psycho-social Self-actualization	Sentimental Spiritual	Love Peace of Mind	Affect Meaning
10. "We lived in a city... Grandpa's where I got my love for farming."	Love	Energy Time	Fueling Orienting	Psycho-social Self-actualization	Sentimental Social Spiritual	Love Neighborhoodness Peace of Mind	Affect Meaning
11. "He was up on everything...self-educated man."	Status Information	Energy	Fueling (storing)	Self-actualization	Intellectual	Intelligence	Meaning

Table 2. (cont'd)

STATEMENTS	RESOURCES	RESOURCE CHANNELS	ACCESS MECHANISMS	NEEDS	VALUES DOMAINS	VALUES BENEFITS	TARGET GOALS
12. "Well formal education...I'm more than satisfied ...new ideas and new things."	Information	Energy	Fueling	Self-actualization	Intellectual	Competence	Meaning Power (skills)
13. "I'm learning a lot... by doing things."	Information	Energy	Fueling (tapping) (charging)	Self-actualization	Intellectual	Competence	Meaning Power (skills)
14. "He was just a person I idolized ... always special to me."	Love Status	Energy Time	Fueling Orienting	Psycho-social Self-actualization	Sentimental Intellectual	Love Intelligence Competence	Affect Meaning
15. "The one thing ... Grandpa's hands ... work hard... an ethic, you know."	Love	Time Energy	Orienting Fueling	Psycho-social Self-actualization	Sentimental	Love	Affect Meaning

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Life on the Farm

The prior account of the Hardings' proposal emphasized their long term goals for the future. The preceding account of family history and biography considered the Hardings' heritage of values from the past. Present time is addressed in the following account of the Hardings' life on the farm. This is presented in two segments.

- 1) **Beginning Life on the Farm: Values and Goals** - a discussion of the Hardings' priorities, expectations, values, and goals as they began life on the farm.
- 2) **Resource Management and Decision Making: The First Year** - a review of events, decision making, and resource management processes during the Hardings' first year on the farm.

Data are interpreted within the context of each of the above two segments which comprise this section of Chapter IV, rather than at the end of the section. As in the preceding account of family history and background, statements that are identified as resource management and values related are bolded and numbered. Related concepts pertaining to resource management and values are presented in matrix format in Table 3 at the end of this two-part section.

Beginning Life on the Farm: Values and Goals

Ted and Joanne moved to their 20 acre farm at the Research Station in mid-August, 1984. Three months prior to their move to the farm the Hardings responded to the first administration of the questionnaires, a series of structured instruments designed to obtain information about

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individual and family characteristics and structure. In the baseline administration of the questionnaires information was gathered concerning anticipated changes which Ted and Joanne perceived would occur as a result of their move to the research farm site. Baseline information pertinent to this study and relevant data from records and assessment tools are presented in support of interview data.

The first interview took place October 3, 1984, two months after the Hardings moved to the farm. The interview began with a probe concerning what the family had been doing since the move to the farm. All other interviews began with a similar introductory question (i.e., What has happened since the last interview?).

Joanne responded to the opening probe by talking about priorities.

Joanne: Everything is going as I had planned. . . . When you move, you have things that take priority right away, like getting the house in liveable status, was number one with me. . . and the second priority after that was finding jobs for both of us cause we felt that we had to have some income coming in before, like even before we could put up curtains . . . and we're both working so now our hay crop, that's our next priority to get that in (Interview 1, pp. 2-3).¹

At that time Joanne had found employment as a short order cook. She worked part-time at a local restaurant. Ted had obtained part-time employment at a state operated fish hatchery. He had also done some part-time maintenance work for the research station. "Finding a job,

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that's become critical . . . Trying to find a job that's a big change for me," said Ted. For the past five years Ted had worked over forty hours a week on an hourly wage basis and although his job was stressful, it was steady employment. In the baseline questionnaire, administered three months prior to the Hardings' move to the farm, Ted described his former job. It involved long, irregular hours in "the care and counseling of young male wards of the state who had social, emotional, and criminal behavior problems," wrote Ted in response to an open-ended question about his work. Ted wanted to find a job with "more positive involvement." He expected that once they moved to the research farm site, his work life would become substantially better. Finding a full-time job was more difficult than Ted had anticipated. The anxiety of finding off-farm employment, however, was offset by Ted's immediate enjoyment of the work on the farm.

Ted: But to me, coming down here, the initial surge of me just going out to the barn and just working in the barn, working for the project. That was therapy for me (Interview 1, p. 9).²

Fueling in the form of charging is the access mechanism identified from Ted's above statement interpreted in context. The initial surge which Ted experienced energized him to continue to pursue his goals in spite of unexpected setbacks.

Joanne's statement concerning priorities can be seen in conjunction with Maslow's hierarchy of needs. When the Hardings began their new life on the farm the first order of business was to meet physical needs by getting the house in "liveable status." The second

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priority was to find jobs to move toward economic security. Once these needs were met fairly well the next priority was productiveness, getting the hay crop in.

The major topic of the first interview was values and goals. Joanne's response to the first interview question about values was a reiteration of her view of the good life.

Joanne: As far as values go, we value a wholesome lifestyle, eating homegrown foods instead of chemical-packed food that you buy at the store. I also value doing things for "ourself." I realize nobody can be entirely independent of anything else, and I know that the community structure is very important, and we've all got to work together. But things I can do myself, I like to do myself. There's a certain self-satisfaction in knowing that you have sustainable skills, like canning, sewing, whatever. I value that. I also value the country living, the space, just the grass, the trees, everything about I guess nature. I don't know if I could live in a concrete city (Interview 1, p. 11).³

Ted shared Joanne's sentiments with respect to the natural beauty of environment.

Ted: My values have always been , ya'know I value looking at the row of pines at the end of the field, better

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than I would a lot of other things (p. 12).

Later in the interview Ted further explained his appreciation of the natural environment.

Ted: I feel every time I walk out that back door, I just look across that field, it doesn't matter whether the sky's cloudy, it's raining or something, it's just those scotch pines, that row of pines. That's nice to me. I think it's really nice. And that just sets the tone y'know (Interview 1, p. 31).⁴

Ted expressed his enjoyment of the challenge, risk, and responsibility of all the decisions that had to be made since the move to the farm. He spoke with enthusiasm and energy about the risk of buying used farm machinery, the feeling of satisfaction that came from fixing it, and knowing how it fit together.

Ted: I like to work on stuff myself. . . I really like knowing how things fit together and to fix them is one way to find out. Like when we got that tractor, I went right through it, changed all the filters and all that stuff. That's something I enjoy (p. 13).⁵

Ted compared the challenge and enjoyment of taking risks with the financial security of buying newer and more expensive guaranteed equipment. He preferred the former since he could invest his own skills for what he perceived as a more complete benefit than merely a smooth running tractor. Ted felt that living on the farm had given him a new outlook.

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know nine tenth was going right out the door in payments or something (Interview 1, p. 11).

Now the feedback was more direct.

Ted: I really enjoy the stuff I'm doing in that barn, I'm working for us, for the project, and that really makes me feel good (p. 11-12).⁶

The Hardings were asked about their values and goals with respect to farming, community, family, friends, religion and spiritual life, recreation, and material goods.

Values and Goals: Farming

The Hardings' long-term goal was to develop an "organic, sustainable, regenerative" farm, not just for themselves but as Ted stated:

What I'd really like to see come out of this is taking what we do here on this property with a barn, with the sheep, whatever we get, taking this information and hopefully in the future, a lot of people will benefit from it (Interview 1, p. 33).⁷

Ted had a plan which he felt might someday benefit third world countries. He planned to use turnips as a forage crop. Ted reasoned:

There's more protein in turnips, the sheep will eat the whole thing. You can really concentrate your acreage, you don't need that much acreage for quantity and quality of forage. So you can compact your land use . . . something like that could really be a key to help a lot of people out. Not only financially but as

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a (regenerative, organic) farm system. . . . I hope my efforts will mean something down the road. . . I just hope this whole thing will help a lot of people . . . not only grow food but for quality of life (as a whole) (Interview 1, pp. 34-35).⁸

Joanne expressed a similar desire.

". . . to help other people, doing what this project is doing. That's why this has got me all fired up. . . because I think it's really important to the whole world. I think there's a revolution coming in agriculture . . . I want to be part of it (p. 36).⁹

The small farm was valued as a means but also as an end.

Joanne: I want this project as a means to another end. . . this project is the end that our whole lives have been really leading to (p. 35).¹⁰

Although Joanne referred to herself as an "organic farmer at heart" and she really wanted to stay "organic, sustainable, regenerative as much as possible" (p. 14), she also said that she didn't know everything about it, and more information was needed. Ted agreed and referred to himself as a beginner. Because he was a beginner he wanted to remain open to the ideas of other farmers in the area. to listen to their advice, and learn gradually.

Ted: I tell everybody I'm a beginner. . . . I understand what Joanne is saying and that's an ideal, you know, and we ask people around here what fertilizers to use

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on our alfalfa. I went to the Crop Forage Day and those guys down there had a chart saying from nothing to 200 pounds per acre. . . I'm gonna go with what's recommended for the top production, I'm gonna knock it down a little bit. Not only for the cost but we don't need to have the best alfalfa stand in the country (Interview 1, p. 12)."

To move toward the realization of this long-term goal, the Hardings anticipated that they would need to improve their skills and acquire new skills to develop a successful farm. The Hardings' actions as discussed in the first interview were consistent with their expectations as stated in their responses to the baseline questionnaire. As anticipated at baseline, Ted obtained information about farming practices from friends and other farmers as well as extension agents. He learned additional skills by asking others, by doing it first hand, and from common sense. Ted saw farming as an opportunity to use his skills (e.g., his ability to use and maintain tools and machinery) to attain the goals for which he and Joanne were striving. At baseline, Joanne had referred to herself as an "armchair farmer." As anticipated, her sources of information about farming included books from the library, the county extension agent, a farmer friend, and farm-related magazines.

Values and Goals: Community

Their expectations also influenced the Hardings' interface with their new community and are expressed in relation to their values and goals with respect to community. The Hardings felt that the time and energy required to get started in farming would prevent involvement in

any formally organized community groups.

Joanne: For now I think a lot of my energy is going right into this project. And the community is going to be like the extension office and stuff like that I'll be dealing with. I've toyed with the idea of 4-H but I'm a little wary of taking on too much; I tend to do that. . . . We made contacts in the community with the sheep people we've talked to through the extension service. I go to the library. I go every week on a regular basis. . . . I'm going to hold off on volunteering for active participation in anything until I'm sure exactly how much time I'm going to have to get this project going (Interview 1, p. 21).¹²

Ted: I've met people who work on farms but for me I've got my end, my little island to take care of here and it's too much stuff to do. . . . This is what I really want to do so I'm putting my energies here and the community will take care of itself. Once we start I think the community will be coming to us. That'll be, you know, gratifying too (p. 22).¹³

In their proposal the Hardings stated that "the production techniques used by the small scale farmer must be socially acceptable to the rural community the project should foster a working network of all farmers." A working network requires that members of the network

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contribute as well as receive. Ted's and Joanne's statements regarding connections with the community in their new environment are consistent with their earlier values statements. During their first months on the farm Ted and Joanne surveyed possible sources of information. Ted felt that before attempting community involvement he needed to "hold up his end" and achieve positive status in the community. Joanne did not want to be distracted from her primary task of gathering information.

Values and Goals: Family

Joanne and Ted were pleased with the interest and acceptance their extended families expressed concerning their new venture. This seemed important to both Ted and Joanne.

Ted: Oh, they (Ted's extended family) they're really interested in what we're doing down here. The whole family is. They really think it's neat, I think.

Joanne: More so since we're down here.

Ted: Oh yeah!

Joanne: Once your parents saw this place, (Ted's whole family helped the Hardings move in) it really got them interested because before, we'd bring it up and they wouldn't talk about it. They wouldn't ask anything. . . . All they could see was us moving 95 miles away and that was going to be awful. But now they've been down here and they've seen it . . . they're really excited about it. They weren't at first.

Joanne's family was more accustomed to greater physical distance between

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family members but it seemed important that they too had expressed interest and approval.

Ted: But even they're interested; I know your Mom really is.

Joanne: Uh, huh!

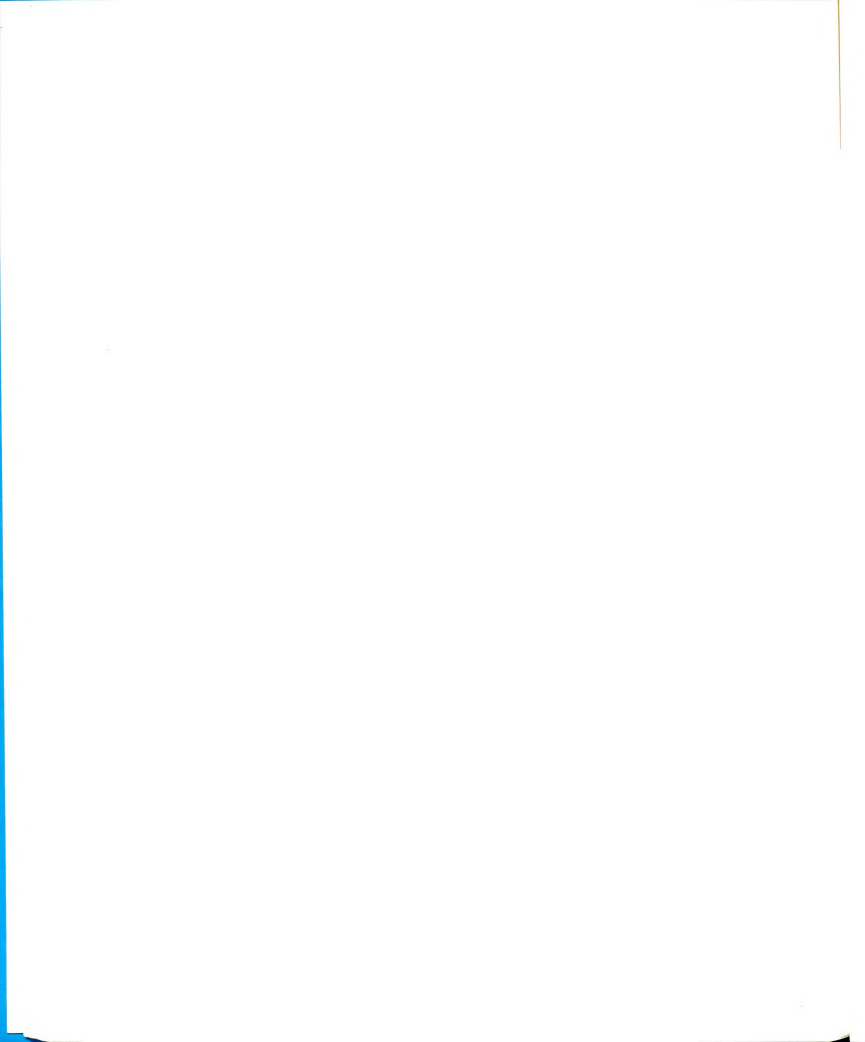
Ted: And her brother wants to come, is dying to come over here. He's coming over in January (Interview 1, pp. 16-18).¹⁴

With respect to their nuclear family, the Hardings' responses on the quality of life section of the baseline questionnaire indicated a high degree of satisfaction with family life. According to their scores on FACES II (Olson, Portner, and Bell, 1982), the Hardings saw their family as connected and flexible. Ted saw the family as slightly more connected than did Joanne. Joanne saw the family as somewhat more flexible. Both were content with the cohesiveness and flexibility they perceived. Ted's and Joanne's perceptions of cohesiveness and flexibility in their nuclear family are reflected in their above description of distance regulation in their respective families of origin and in their interest in remaining flexibly connected to their extended families.

Values and Goals: Friends

Both Ted and Joanne valued having close friends. Both also believed that it would take time to develop friendships in a new environment.

Ted: We've got our close friends y'know and it seems like whenever we've moved, quite a bit since we got out of



school, y'know it seems like close friends always stay close (Interview 1, p. 18).¹⁵

Joanne: A friend is something that it takes time to develop and that's why we have friends where we lived and they'll come to visit us (p. 19).¹⁶

The Hardings mentioned that the Randalls and the Millers, the other families involved in the research project, were already becoming friends.

Values and Goals: Religion and Spiritual Life

Both Ted and Joanne said that their spiritual life was expressed through quiet reflection rather than formal religion. For Joanne, reflection was stimulated by reading books, philosophizing about life, and meditating. One of Joanne's personal goals was to grow spiritually through reading.

Joanne: I continually read, the more I read, the more I find out, the more that I know I don't know. And so I feel that I'm growing that way and I want to continue to do that (p. 36).

It was nature that Ted turned to when he felt the need for quiet reflection.

Ted: Outside is my religion. . . . I go up North . . . I can just sit there and look back on my life, just kinda reflect, and that is my religion (p. 20).¹⁷

According to Rescher (1982) the spiritual values domain is exemplified by the expression "being in good standing with ourselves." Associated values benefits are clearness of conscience and peace of mind.

Spiritual needs, as described by Maslow (1954), are inclinations to understand the mysteries of human existence, the environment, and our place in it. Joanne's approach to meeting these needs was through reading and philosophy, an internal approach. Ted placed himself in an external aesthetically pleasing environment and reflected on his life in relationship to the environment.

Values and Goals: Recreation

When asked about recreational values Ted talked about recreation as an outdoor activity, giving as an example his walks in the woods, specifically a yearly hunting trip. Ted and Joanne preferred venison to beef so his hunting provided good meat for the family as well as recreation for Ted. Joanne's recreational activities tended to be indoors and "more subtle." She explained, "I turn on the stereo and sing and dance around the living room. . . . I don't have to go anywhere." Ted added, "I'm more of an extrovert. I need external stimulus. . . . She's kind of an introvert." These tendencies were also evidenced in the Hardings' description of their spiritual orientation as well as in their responses to baseline questionnaire items measuring internal-external locus of control. Joanne's score indicated that she was more internally controlled than Ted who tended to be more externally controlled.

Values and Goals: Material Possessions and Economic Concerns

Ted and Joanne agreed that a great deal of material wealth had never been a high priority. But for the first few months on the farm they were not feeling financially secure and when asked about material things Ted exclaimed, "Money is driving me crazy!" Ted was feeling the

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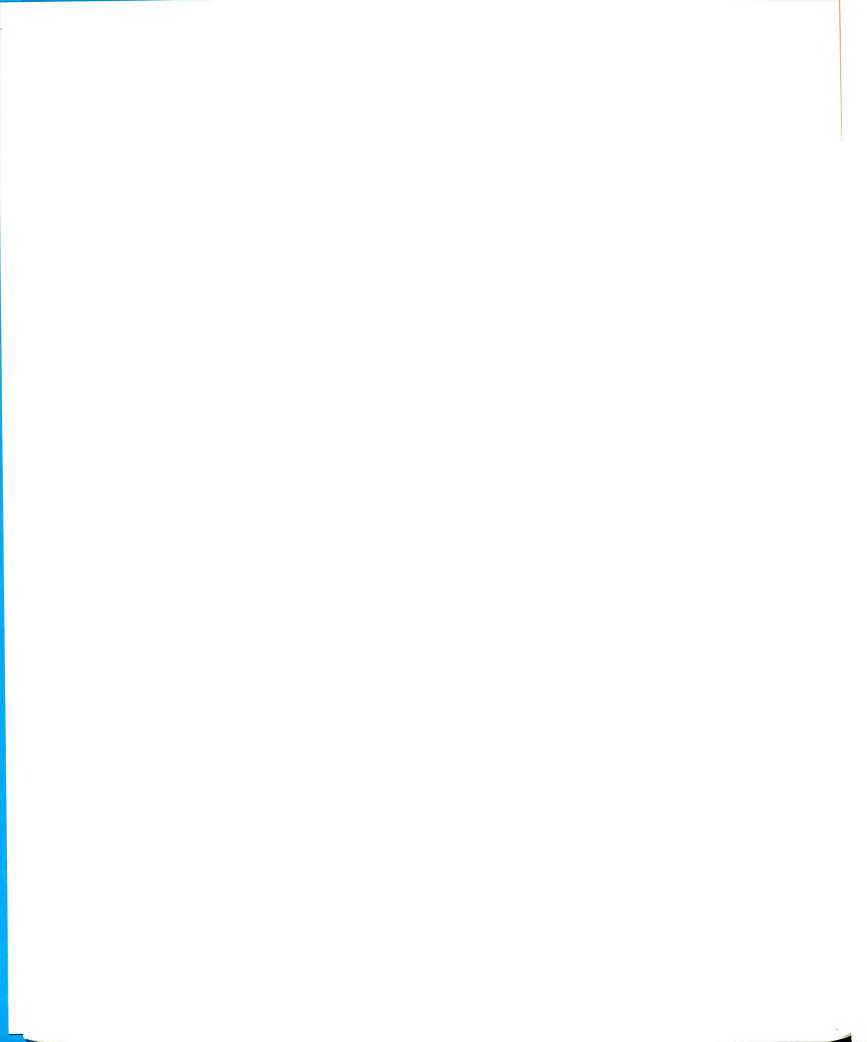
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burden of moving from a steady income to the financial insecurity of a situation he said he'd never experienced before. The Hardings were having problems with the sale of their former home and had to sell for much less than they expected, their jobs were part time and insecure, and financial concerns were in the forefront. Ted and Joanne felt that eventually they could make the farm self-sufficient. They would "come up with ways to generate income" but this would take time. Ted explained:

Ted: I generated a lot of income back in the other job. Of course we spent a lot more. Down here we've jumped into a whole new situation . . . and the transition is tough . . . it's really tough (Interview 1, p. 24).¹⁸

Ted and Joanne had never worried about money before. "It never bothered me cause I've always worked," said Ted. "I've always been really satisfied with what we have . . . it's nice to have things, but they're not really that important but I guess I can say that cause we've always had enough " (p. 23), explained Joanne. As they began their life in a new environment the Hardings' short-term goals, out of necessity, centered around meeting their immediate physical and material needs and acquiring access to more resources.

Ted: My short-term goals are just to keep going . . . keep the cars and trucks and everything and keep payments paid, just keep us going at even keel cause once you've got your base y'know maybe then you can branch out. . . . I want to get first of all my body in shape. Cause I was having some problems with the



other job and y'know it's happening. I think things are coming about a lot better, my stomach is a lot better. I don't know if those are goals or necessities that I feel (Interview 1, p. 36).¹⁹

Joanne had several short-term goals related to "getting the house in liveable status."

Joanne: A priority this month is to get a dryer . . . our basement is very tiny and we just don't have room to have lines. . . curtains is another priority. . . cause I don't like the windows . . . another thing is rugs. . . wallpaper in the kitchen is another one. I want to get that up. Um, that's all for now. I have y'know decorating, I would rather go without for a long time than to get something I'm not satisfied with (p. 44-45).²⁰

In terms of household goals Ted indicated that decorating the home was not an immediate concern for him. His goal with respect to the household was to purchase a wood stove. The Hardings were very satisfied with the system used in their former home and Ted enjoyed the "good healthy work" and the efficiency of heating the home with wood.

The Hardings' short-term goals as compared to their long term goals reflect their immediate physical, material, and financial concerns and their perceived need for information. In spite of her ideal for a completely organic farm, from an economic point of view, Joanne agreed with Ted's earlier statement regarding the need to approach this ideal

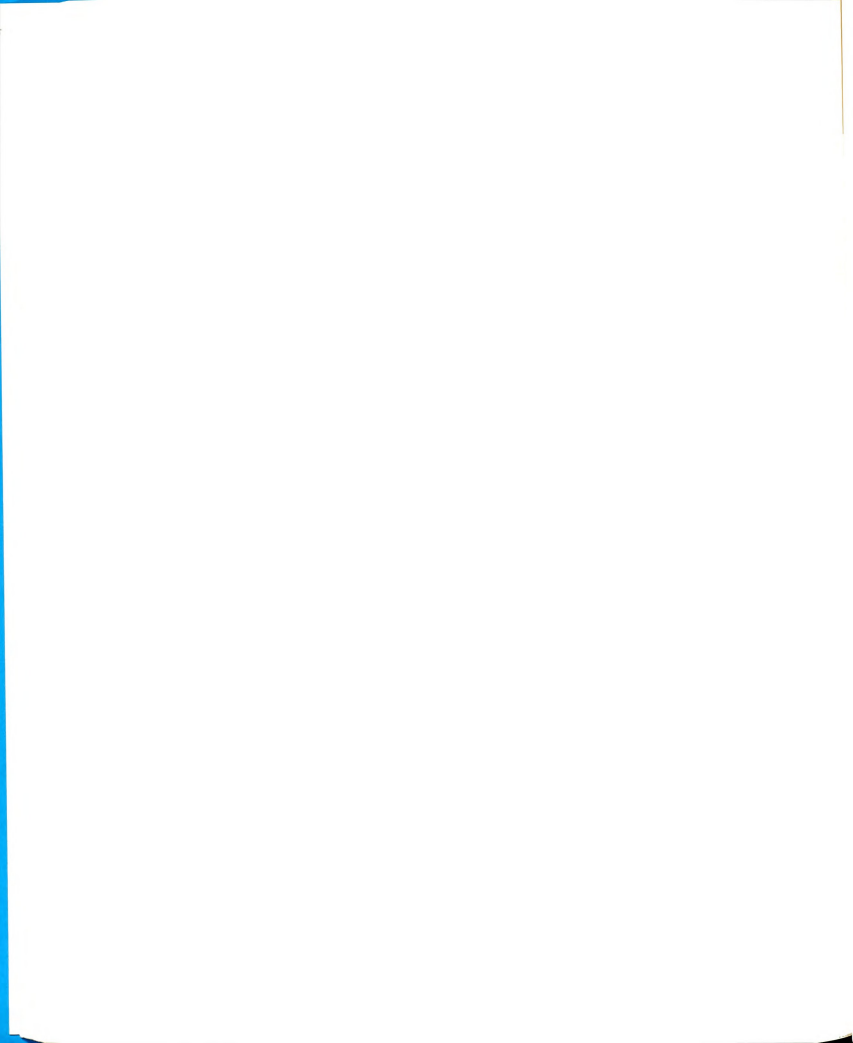
in stages.

Joanne: Right now, with the knowledge we have - - I'm learning all the time, but I still think it's a little idealistic to think that we're gonna grow and become economically sufficient without using any chemicals. I would like to do that, it's something to shoot for. As of right now with the amount of information that we have I'm not sure just how to go about that (Interview 1, p. 40).²¹

The Hardings were eager to get their farm started but decided that it was important to proceed slowly without sacrificing economic security and material and physical well-being. Ted felt that at this stage it was important to be very conservative and cautious about the purchase of farm equipment.

Ted: You just can't spend anymore than you have to. Cause of the price of stuff today, if you do you're in trouble quick. . . . We bought a tractor. I bought my hay equipment. I've got the winter to decide what kind of tillage equipment we're gonna need. And once we've got it, that's it. I'm gonna maintain it myself and just use it to the best of its ability and the best of my ability (Interview 1, p. 41).²²

The Hardings planned to use hay as a cash crop. The high cost of machinery necessitated a change in their proposed plan to rotate wheat,



corn, and hay in three acre plots.

Ted: How are we gonna handle three acres of wheat. You have to get a combine, and elevators . . . grain wagons and everything.

Joanne: Right and storage . . . it just brought up too many problems (Interview 1, p. 53).²³

Values and Goals: Resourcefulness

According to Paolucci, Hall, and Axinn (1977), "Values are translated into goals, goals carried to action through the use of resources. The goals families set are directly related to the resources available to the family" (p. 131).

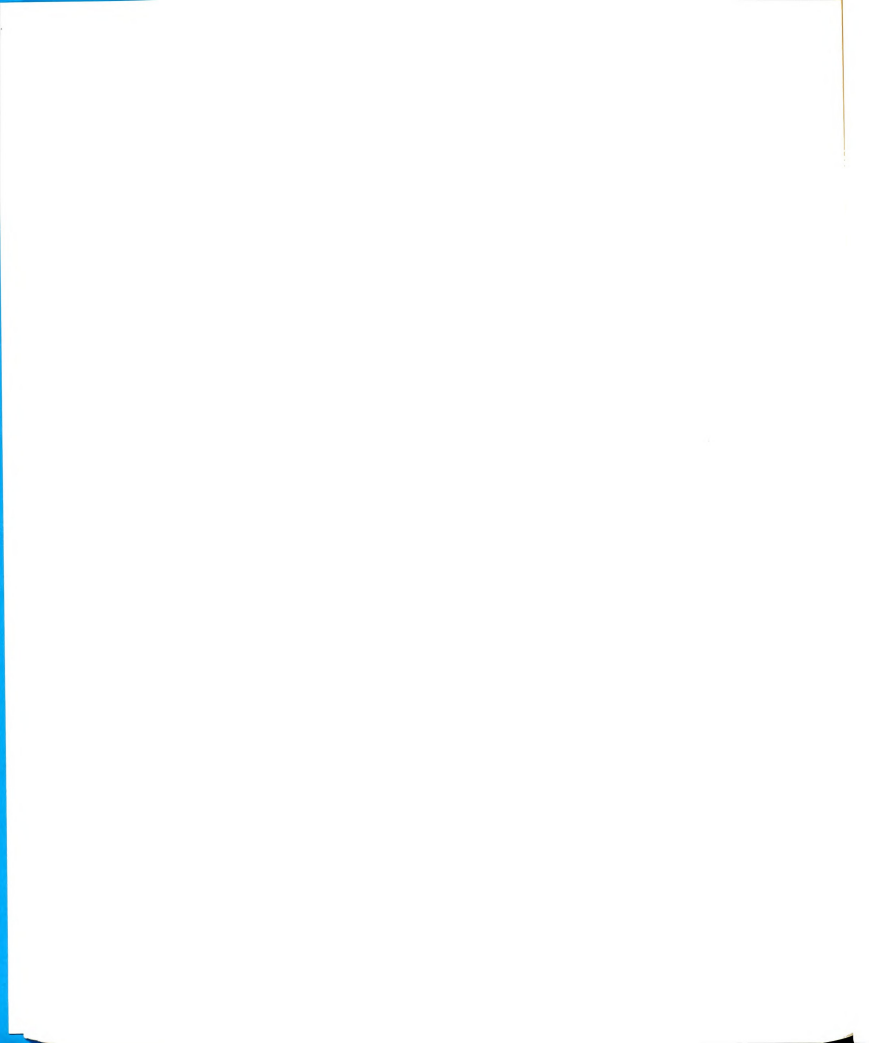
With respect to accomplishing short-term goals, as well as their long-term goal for realization of their vision of the good life, Ted and Joanne both felt that their greatest asset was "resourcefulness."

Joanne: I think the biggest thing we have is resourcefulness. If I don't know something, I know where I could find it, and if I don't have something, I know where I could get it and or I know somebody who does know.

Ted: I think, for me, I like to tinker . . . If I really set a goal down I want to accomplish I think I can eventually come around. I'm pretty good with hand tools. I'm always learning . . . for me, that's a real source of ability there. I enjoy doing this.

It's resourceful (pp. Interview 1, 53-54).²⁴

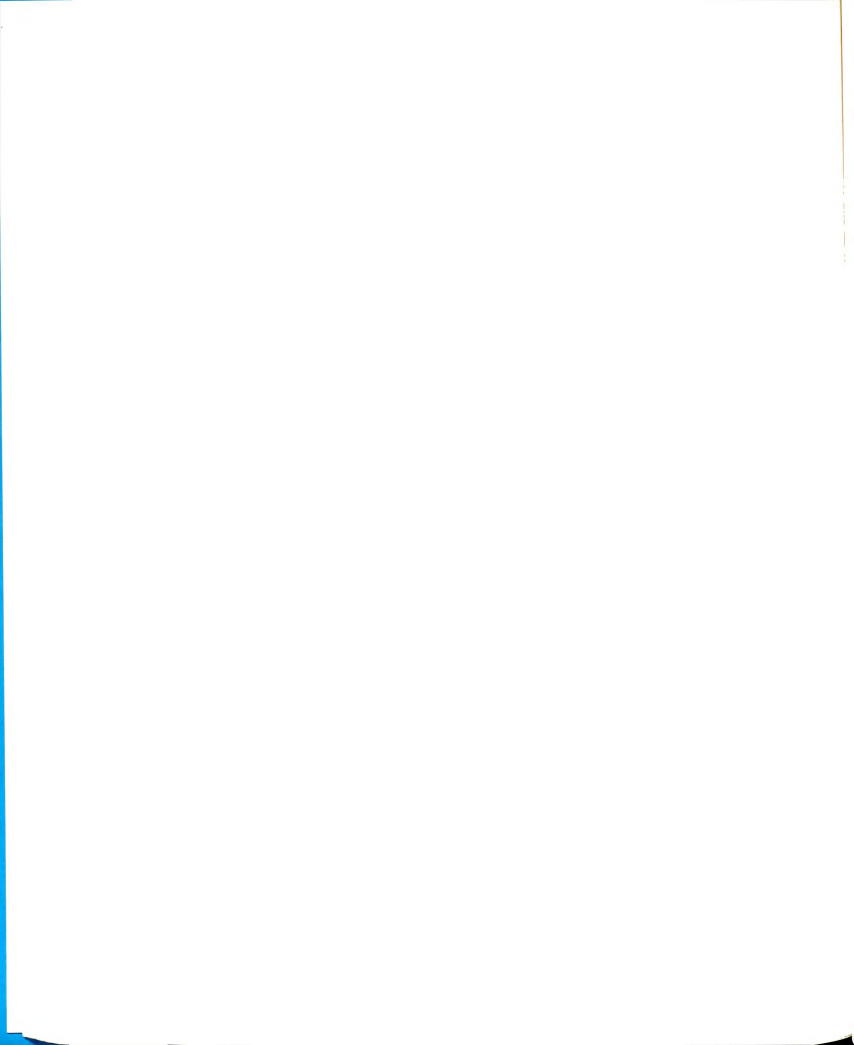
Paolucci (1985) refers to resourcefulness as a manager's ability



to discover and utilize appropriate means to a given end. Information, as integral to resourcefulness, was a key resource stressed by both Ted and Joanne as they talked about means to accomplish their goals. The Hardings' contact record prior to the first interview lists information as the predominant input resulting from contacts made by or to the Hardings. Information was listed as an input resulting from 36 of the 54 contacts recorded on contact records from June to October. Of the 36 contacts, 30 were initiated by the Hardings. The resource mechanism most stressed in the first interview was fueling in the form of surveying, tapping, charging, and storing information which was transformed into energy.

As they began life on the research farm, the Hardings felt confident that they could find the means and apply their energies to the task of following their dream. After attending their first fiber festival, the Hardings' vision of the good life, in terms of life on a small scale farm, was strengthened. Additional means were discovered and their long-term goal seemed attainable. Joanne decided that she wanted to learn the art of spinning wool and she also intended to teach their dogs to herd and track. She met people who would continue to provide her with the information needed to acquire the desired skills. Ted looked forward to the challenge of shearing his own sheep. He began to see himself as "the shepherd, the guardian of the farm" (Interview 1, p. 55). Ted and Joanne intended to spend the coming winter continuing to prepare for "the growing season." Would the Hardings be able to make the necessary connections and set down roots in their new environment?

How Ted and Joanne managed their resources to grow and develop as



farmers, meet their needs, achieve their goals, and realize their values is discussed in the account of "The First Year," a description of decision making and resource management during the Hardings' first year on the farm.

Resource Management and Decision Making: The First Year

Over the winter Ted and Joanne adapted a strategy of taking one major activity at a time. The wood stove was installed in November and wood became the family's primary source of heat. Ted's annual hunting trip, his recreational activity, provided the family with wood as well as venison. By early December Ted had installed most of the fencing for the barnyard. Time records indicate that Ted spent a total of 60 hours constructing the barnyard fence. He also prepared a quarantine pen for newly purchased sheep so they could be watched for a time to determine whether there was any disease among them. In January four blackface ewes were delivered, followed by nine Corriedales in early February. In February Ted built a chicken coop in order to get the chickens out of the barn. By March Ted indicated that he had done considerable work on the barn, the garage, and cleaning brush out of the barnyard. Joanne had spent many hours wallpapering and making window quilts. She also designed a garden and ordered seeds. After several months on the farm Joanne told the researchers that she had developed an open-ended approach to goal setting and problem solving.

Joanne: We have found that you cannot say that this is going to be done by April third because it doesn't work like that. You just say, "I'm

going to do as much as I can today, and what I don't get done I'll get done tomorrow (Interview 3, p. 6).

By April Ted and Joanne had managed the farm and household for approximately eight months. The topic of the interview conducted at that time was decision making and resource management. During the course of the interview the Hardings were asked to talk about decisions made since moving to the farm. Because of its relevance to this dissertation, this interview was selected for in-depth analysis. Managerial decisions are analyzed according to the substantive characteristics of the decisions (i.e., economic, social, or technical as defined by Paolucci, 1966 and Diesing, 1962). As in the prior segments of this chapter, statements that are identified as resource management and values related are bolded, numbered, and presented in matrix format.

The interview centers on the management process including when the family first recognized that they needed to make decisions with respect to the following categories: farming enterprise, external employment, home-based business, household, and sequencing of decisions. For each category Ted and Joanne talked about the decisions they considered most important.

Resource Management and Decision Making: Farm Enterprise

When asked how decisions were made and which decision was most important in relation to the farm enterprise, Joanne jokingly replied, "we flip a coin." Ted said, "Buying the sheep and buying equipment, you know she told me to get it." On a more serious note, Joanne explained

that their aim had been to feed their sheep, to be purchased Spring, 1985, with the hay which they had planned to harvest in the Fall of 1984. Weather conditions had prevented the harvesting and the accomplishment of their original goal. Joanne elucidated:

Joanne: We never got our hay in so we didn't have anything to feed the sheep. So, the decision was, do we get the sheep and buy hay to feed the sheep? Or do we not get the sheep and wait until the next year when we have our hay and get the sheep then (Interview 6, p. 42)?

Those were the two alternatives. This decision would involve the use of economic rationality since the family would need to estimate the expected value of the two alternatives. Which alternative would maximize the return from the allocation of their now more scarce than expected resources? Ted's and Joanne's enjoyment of the challenge of decision making was demonstrated in this section of the interview. Their voices were full of energy and enthusiasm as they told about their decision.

Ted: We compromised and went with the smartest thing we felt would be good.

Joanne: Well, just the talks with, we contacted different people. We talked to

Ted: Right

Joanne: Mike, who was the big

Ted: Oh, yeah.

Joanne: Input. He said, um, experiencing a lambing was

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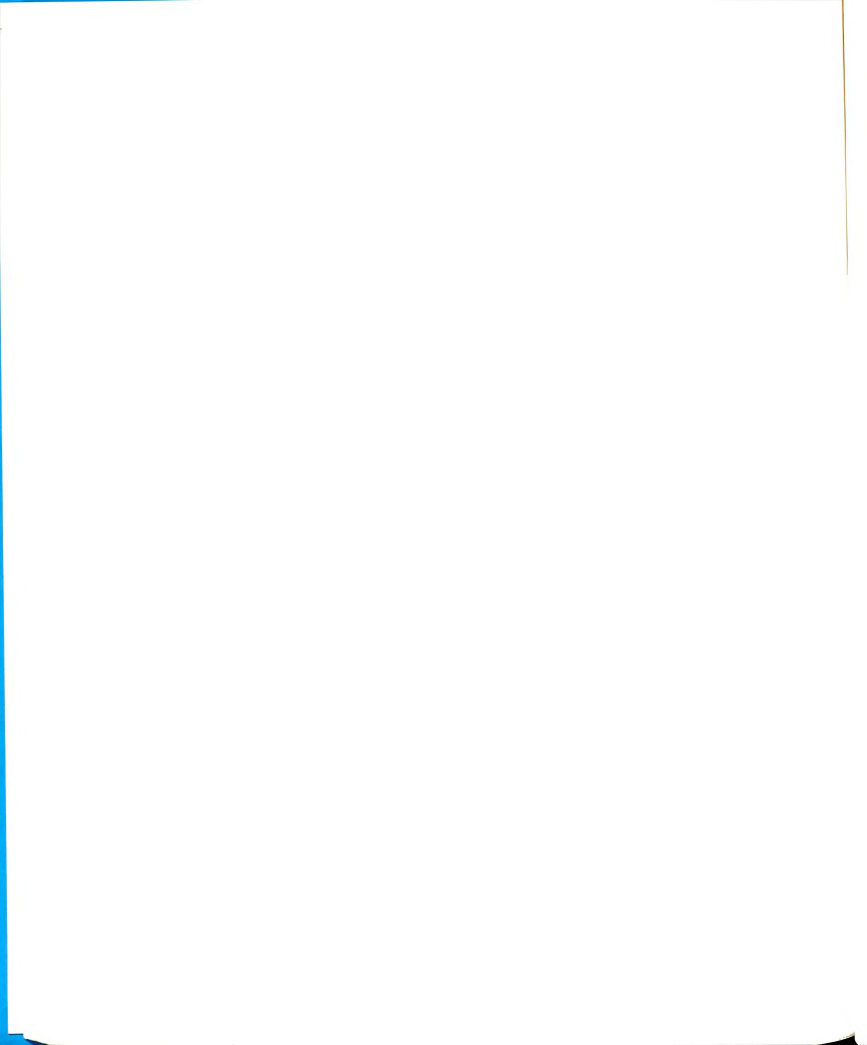
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really important since he knew about our operation what we were planning on doing. And he emphasized that even if you have to buy hay and get four ewes or six ewes, get a few . . . okay, that was our proposal, to get four or six of them, get a few of them, go ahead and buy the hay, just to experience that lambing. To get that experience is really important and he said, "I wouldn't put it off for another year." So after talking with him we decided well, that's what we would do, we'll buy some sheep, not all the ones we had planned on getting. (The original proposal was to purchase 30 ewes, in the Spring). But buy some sheep this year and go through that experience with lambing. So then we started looking around. We had a good friend who gave us four which was really nice (Interview 6, pp. 43-44).

Ted: In exchange we'll give him a really good ram. He's looked for a really good ram so we're gonna kind of look around well see, he'll take Sam (the ram), okay? He's really helped us out with his plow and grain drill, okay. He's really out to help, he's a good friend. I'd like to get him a registered suffolk ram which he really wants. He would take Sam though because he just wants a good ram (p. 44).²⁵

The decision-making process regarding the purchase of sheep reflected a joint realization of a problem, as well as jointly held needs and values (i.e., the use of the pronoun we and the assumption of mutual desire to seek further information and consult experts who understand the family's goals). Both Ted and Joanne agree that experiencing lambing is of value even if it involves a change in economic goals and possible risks in terms of the economy of using time and energy resources for less economic gain than originally estimated. They decide to follow the expert's suggestion because he understands their operation and their need for experience. They evaluate his input in the light of their original economic goal and their more deeply held value of self-development through experience. They process the information which has been gathered and are open to a bartering alternative which involves friendship resource exchange as well as material resource exchange. This decision could be considered as integrative in nature, containing elements of social, economic, and technical rationality.

Through an exchange of friendship Ted also heard about another farmer, his friend's cousin, who had nine Corriedales for sale and thirty Suffolks but, since the Hardings only wanted six ewes and the farmer didn't want to separate them, the Hardings decided not to purchase at this time. Before beginning the search for more sheep Ted purchased 100 bales of third cutting hay. Joanne did some research to find out about how many bales of hay were needed for each ewe and together they figured how many ewes they could buy in December. Ted and Joanne explained:



Ted: So we waited essentially a month and we went right back to him and he hadn't sold them yet. That's when we got them. In the meantime, we saved enough hay to make it, see (Interview 6, pp. 45-46).

Joanne: Another reason, even though he's located quite a distance away, we did check around here. We got a list of sheep producers and they were asking \$100 for a bred ewe (p. 46).

Ted and Joanne purchased the nine Corriedales previously mentioned for \$60 a head. The Hardings' evaluation of their decision (below) illustrates their respective roles in the management process.

Joanne: We waited until February and got them and I'm glad we did . . . I supplied the information but it was ah

Ted: Yeah, a mutual decision.

Joanne: Mutual decision . . . It wasn't that I made the decision. I just, here's the price of sheep. We gathered all this information and then it was a mutual decision.

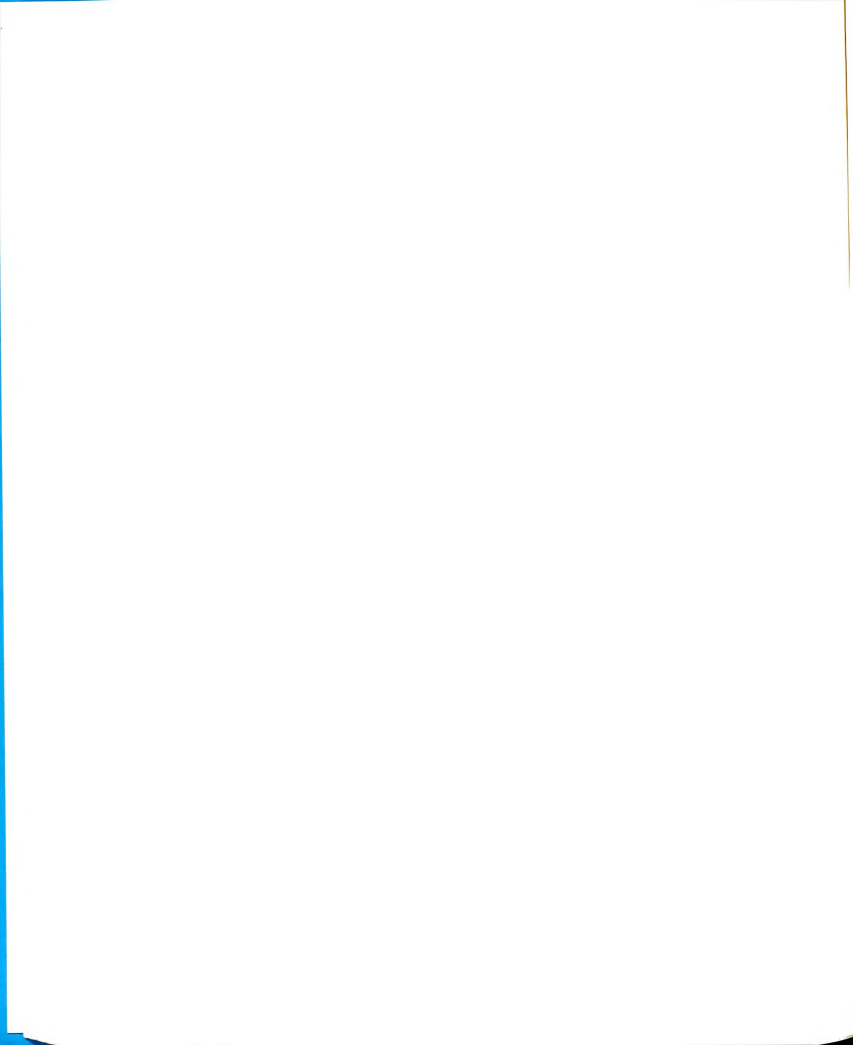
Ted: Because I was the one who had to get Sam down to the barn (p. 47).²⁸

For many of the family's major decisions Joanne's primary role was researcher, information gatherer. Ted also conducted research but usually in a more informal manner. The Hardings processed the information together and came to an agreement about their goals. A plan for implementation was developed. Ted played a primary role in the

implementation of the decision. Joanne acted as a supporter. Ted's role as implementor was the major factor in the Hardings' decision not to get a dairy cow. Ted had more weight in this decision since he would be the one to milk the cow.

Ted: We're gonna have a lot ya'know. We're taking one thing at a time. We figured we'd be biting off more than we can chew if we did that this year. Because we'll be expanding our herd (of sheep). I've got to get the pasture ready, we have the paddock system, our temporary fence, managing the pasture and more sheep, and then pigs. A dairy cow would be just too much (Interview 6, 65-66).²⁷

With regard to decisions about farm machinery the Hardings' major goal was to keep the cost down. Ted mentioned that he was willing to get something that was "not in great shape" as long as it worked well enough to get the job done. Before purchasing machinery, the Hardings figured out a cropping program and then decided what machinery would be needed. If the cost of the machinery was too high, they adjusted their plan. As Ted discussed the major decisions involved in planning and implementing a small farm enterprise, it became very clear that the majority of decisions included technical, economic, and social rationality. Many decisions could not be approached from a purely technical or economic standpoint. Often the family had to alter or combine their goals with those of others (e.g., friends, neighbors, other farmers, the Farm Learning Center, and the research staff). The Hardings' description of a decision regarding the purchase of a corn



planter illustrates the need to use an integrative decision-making process.

Ted: I found a real good John Deere corn planter but the price was a little high, \$450. . . . If we were putting it in sweet corn for sale it might pay for itself, but since we're just growing corn for our own use. . . (Interview 6, p. 51).

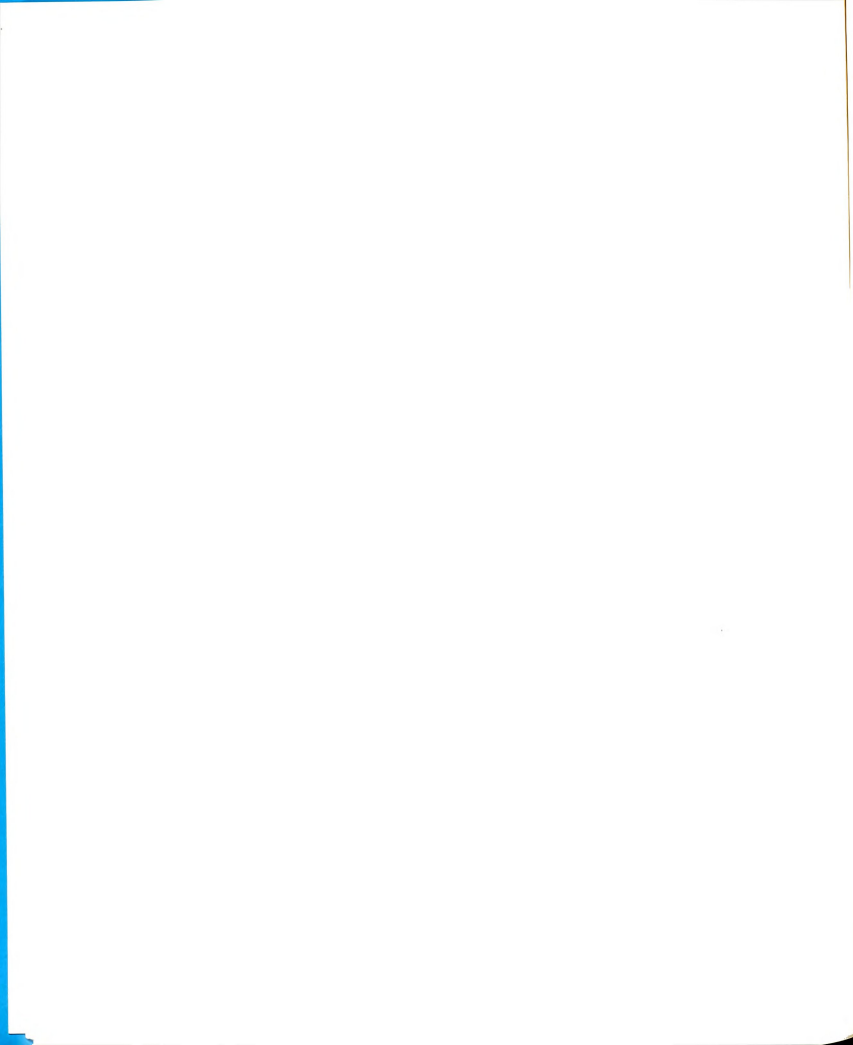
Joanne had spoken about the corn planter earlier in the interview.

Joanne: We did have a deposit down on the corn planter and we did a lot of thinking and figuring. . . . I did some calling around and found out that we can borrow or lease a corn planter from the Farm Learning Center for five dollars an acre (p. 10).²⁸

Ted talked about the benefits of an exchange with the Farm Learning Center.¹

Ted: They are interested in seeing how we do with conventional tillage. And they want to come down here and see our operation, expose the students to us and our operation and the conventional tillage. . . . One hand is gonna wash the other. He could have charged us more but it's a good deal for both of us. . . . It's good to be in good with your neighbors, especially the Learning Center . . . a lot of things

¹The Farm Learning Center is a University-based program aimed at helping students learn hands-on skill in farming.



going on there. . . . He mentioned that he could sell us some pigs for a good price (Interview 6, p. 52).²⁹

The decision to lease the corn planter was not merely a technical (how to) decision and it was not purely an economic decision either. The desire for solidarity and interdependence with neighbors, particularly the Farm Learning Center, was a major factor in the decision to lease from the Center rather than to buy a corn planter or lease elsewhere.

Ted played a more prominent role than Joanne in decision making about farm machinery. He tended to gain information and at times acquire machinery through informal networks (e.g., friends, neighbors). For example, a friend gave Ted a grain drill. The drill was in working condition but no longer met the friend's needs. Ted explained, "he just wanted to get it out of his barn." It happened to be just what Ted needed for his small acreage. Ted felt that it would have been risky to purchase an older drill from a stranger.

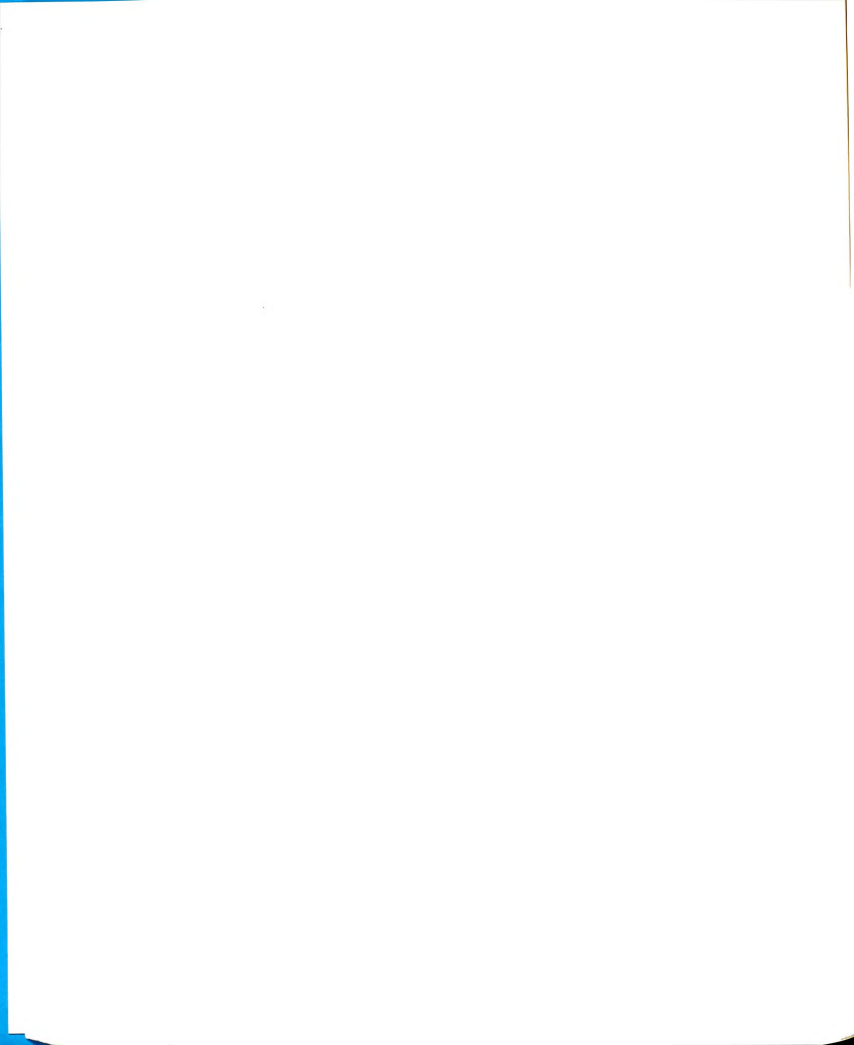
Ted: "You don't have the books to tell you how to calibrate for different types of seeds . . . you might get into all kinds of trouble buying that old stuff. This one, I know who used it, he knew exactly what to do and where to calibrate. It was just a real good situation (p.56).³⁰

Joanne and Ted agreed that Joanne should depend on Ted for final decisions about machinery. "Because I don't feel competent," said Joanne, "I wouldn't know a good deal from a bad deal." Both were in favor of shopping around until they found the best deal. Machinery

purchased included a hay baler, hay rake, disc, cultivators, and a tractor. When asked about his approach to getting information prior to purchasing machinery, Ted said that he first talked to farm research staff at the research station who advised him to check with farm equipment dealers. "I got to know the salesmen. I'm on a first name basis with them now," explained Ted (p. 58). Ted also went to farm machinery auctions with an experienced friend. He visited many dealerships and preferred those close to home because "They're very conscientious people, if I need some service I know they'll help me out" (p. 59).

The Hardings' contact record illustrated that Ted tended to obtain information through informal networks and "in person" contacts, whereas Joanne's most frequent mode was by telephone and more formal networks. Ted and Joanne also contacted semiformal groups (e.g., an organization of sheep producers, other farm-related community organizations, craft groups, co-ops, and Extension Service). While Joanne made most of the early contacts for input into the decision about the sheep, Ted was the primary person who made contacts regarding the purchase of farm machinery. The management process with respect to decisions about the farm enterprise involved collecting information from various formal, semiformal, and informal sources, pooling this information, and developing exchange networks.

Support system networks for exchange of resources were graphically illustrated on the Hardings' ecomaps. The above mentioned roles with respect to farm enterprise management and decision making were reiterated in a later discussion of the Hardings' ecomaps. The Hardings



explained that Ted interacted with farm equipment dealers for the most part in personal exchanges of money, goods, information, and friendship. On occasion Joanne contacted equipment dealers but she did so in a more formal manner by telephone and in Ted's name, "My husband wants to know."

Resource Management and Decision Making: External Employment

The Hardings said that their biggest decision with respect to external employment was to have Joanne discontinue her work as a waitress.

Ted: I really wanted her to quit because sometimes we didn't see each other during the day. I'd be working days and she'd be gone to work at night and getting back at 3:30 a.m. (Interview 6, pp. 60-61).

Joanne: I planned that I would work until Ted got this job and then I would quit. . . . The thing was we didn't have any time to sit and discuss our farming enterprise. We knew something had to be done (p. 61).

Joanne explained that she had tried to cut her hours but the manager would forget and assign her thirty hours a week. She got tired of saying, "I told you I can't work these hours." She and Ted decided she would quit her job as a waitress for the months of April and May. Joint decision making about employment constituted a change in the Hardings' former pattern of making employment decisions independently. Life on the farm moved the Hardings in the direction of more interdependence with respect to decisions about employment. Since their

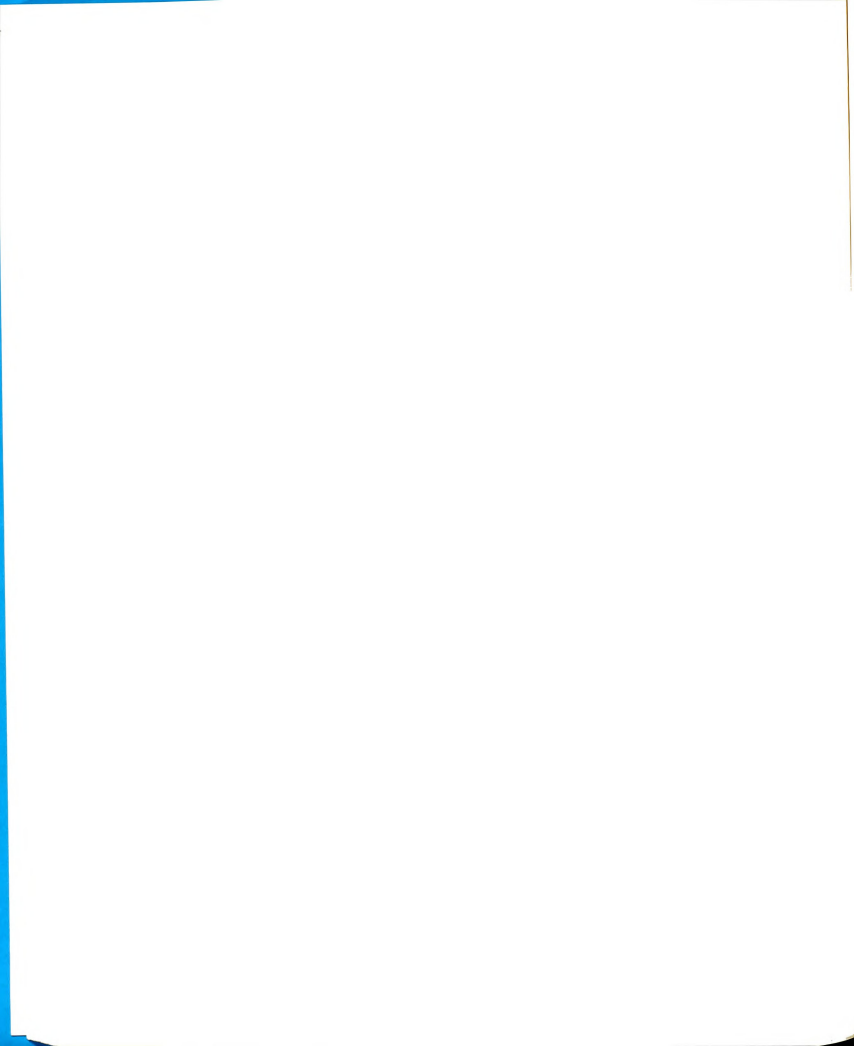
primary goal was managing the farm, off-farm employment became a means to support their dream for self-actualization on the farm. But the means and end were in conflict. When both Ted and Joanne were employed there was no time to work together on building their dream for the farm. Working long hours began to rob Joanne of some of her usual energy and drive. In the time records for the month of November she occasionally remarked that she felt "no ambition." There were times when Joanne noted that her work schedule was from 4:30 p.m. until 2:30 a.m.. Ted commented, "Sometimes when she's working that many hours, I never see her. There was one time for three days I didn't see her." During Interview 6, Joanne mentioned that since Ted had a permanent position they had some security. She said she had no intention of going back to work at the end of May. She explained,

Joanne: I don't anticipate that we'll need that (her job). . . I've got my hands full here . . . we knew we had to do something. We weren't getting done what we had to get done here and that was primary. . . You know we've got chicks and geese (Interview 6, p. 64).

Both Ted and Joanne expressed satisfaction with the decision to discontinue Joanne's off-farm employment.³¹

Resource Management and Decision Making: Home Based Business

Before Joanne quit her job at the restaurant she planned to begin advertising and making contacts regarding her massage business. She chose the month of April because retired residents in the area who spent the winter in Florida would be returning home. Joanne planned to serve



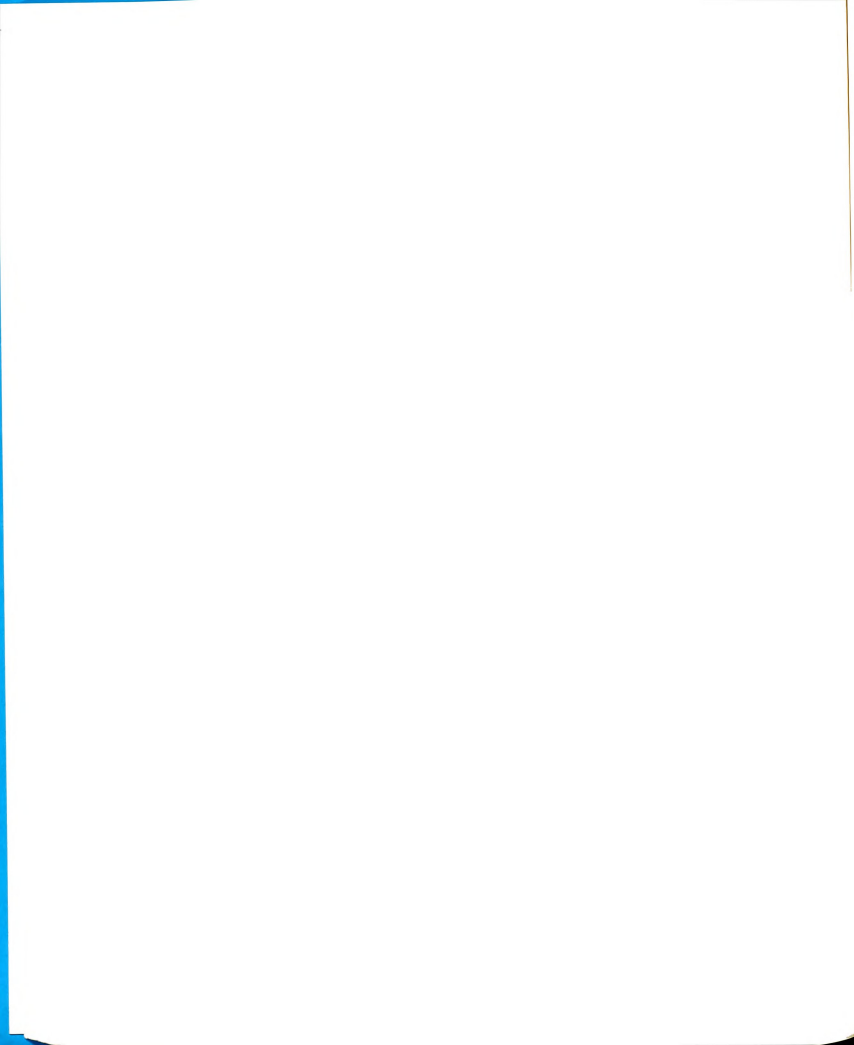
the elderly, handicapped persons and waitresses who were on their feet all day. She would develop skill in foot reflexology and design a therapeutic pedicure which would include foot washing, foot massage, removing calluses and painting the nails; "real foot care deluxe," said Joanne. She had contacted local businesses to talk about this idea.

"It's kind of an on-going creative developing process," she said.

Joanne explained that no major decision had been made with regard to a home-based business. She was in the initial stage of planning.

Resource Management and Decision Making: Household

The Hardings said that their biggest decision with regard to their household was to build a dog run to get the dogs outside for part of the day. Their youngest dog could not be trusted in the home when Ted and Joanne were gone. The Hardings said that the new arrangement was more economical for them because their youngest dog had destroyed several pairs of shoes. The Hardings also felt that this particular dog would be safer in an outdoor kennel. The dog had gotten into a bathroom wastepaper basket and chewed on disposable razor blades. Ted told about an occasion when the dog chased a deer and they thought they had lost her. She also chased their sheep. "Our poor sheep," said Joanne. Ted explained that, although she was intelligent, the dog was "very destructive, too destructive." The Hardings were torn, they valued the dog and wanted her to be safe. Yet placing her in a dog run went against their conviction that their dogs were part of the family. "You do not lock up your family members in a cage, no matter what," said Joanne. "That's right," Ted agreed. They had apparently given this decision a great deal of thought. The decision to build the dog run,



mentioned as the primary household decision, is an example of decision making as intrapersonal conflict management. Ted and Joanne's attachment to their pets made it difficult to make the decision based on their own needs or on economic or technical rationality. Consideration of the pet's needs as well as their own allowed them to make the decision to build the dog run. The Hardings distanced themselves somewhat from the younger, more difficult dog by seeing her as different from their other dogs. They had raised the other dogs from the time they were pups. Joanne mentioned that this dog was primarily raised by its former owner and had never learned boundaries.

The Hardings expressed a great deal of care and concern for their dogs. Joanne assumed primary care for the dogs. She groomed them and entered them in dog shows. Joanne said she felt guilty about Ted having to spend so much time working on the kennel for "my dogs." "So I went out and I pounded staples in and marked boards," she said. Ted added, "and I really appreciated it too." (Interview 6, p. 75).³² Both Ted and Joanne felt satisfied with the decision to build the dog run. They had managed to protect their interest and the dog as well.

Resource Management and Decision Making: Sequencing of Decisions

Through open communication and mutual support the Hardings were able to remain flexible. "We know our limits," said Ted. The Hardings' advice to others who might be considering the small farm lifestyle illustrates their belief in the sequencing of decisions and taking one step at a time.

Ted: Don't get into it too fast. We're fine. We had to take steps.

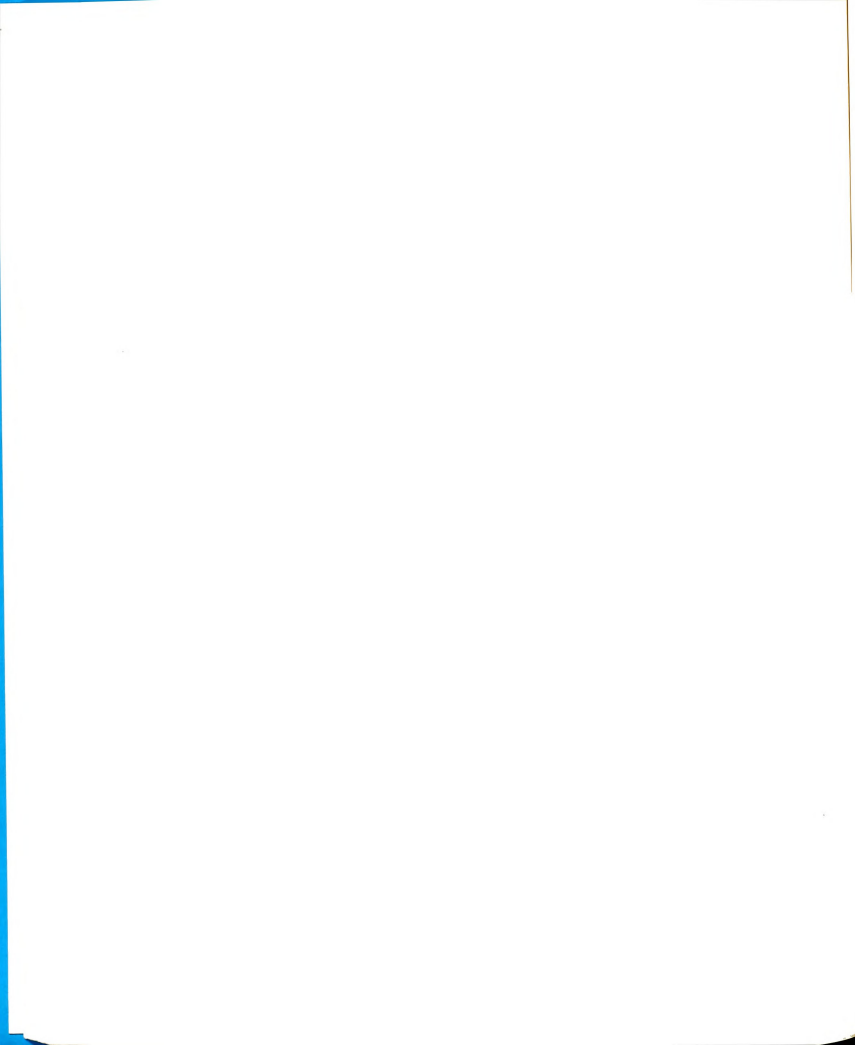
Joanne: Starting out in one week getting 50 chicks, two hogs, four rabbits, and a milk cow. There's no way we could deal with that.

Ted: I think that one objective for me is to make things believable and practical for the project.

Joanne: Salvage and being thrifty is the name of the game. Making do. . . . We decided like Ted was saying about the cow, we're gonna wait till we feel comfortable with what we have before we get anything else. Like this guy wanted to give us pigs this week. We said, we're getting our chicks this week. We don't have our chicken house built yet, we can't build the hog house. . . . We understood all along that we would get one enterprise going relatively smoothly and then another. We've got our sheep, our chicks, pigs are coming up, and then in the back of our mind is rabbits.

Ted: We're just taking one step at a time . . . everything is working together now. . . . The flexibility is still there . . . and that's what setting up a small farm is all about (Interview 6, p. 80).³³

In Interview 8, "Environmental Goals," the researchers presented the list of priorities which the Hardings had stated in Interview 1, "Values and Goals." Interview 8, held in July, marked the end of the Hardings' first year on the farm. Joanne and Ted had by this time



accomplished many of their short-term goals.

The wood stove had been installed and a washer, dryer, freezer, and rugs had been purchased. Joanne had finished wallpapering the kitchen. The warm window treatments which took considerably longer to make than Joanne had anticipated were nearly completed.

The Hardings felt good about eating more home-grown foods, fresh produce from their own garden including broccoli, peas, carrots, beets, beans, cabbage, tomatoes, peppers, and eggplant. Joanne decided to enlarge the garden the following year because she was interested in canning and freezing more home grown vegetables and fruit. She had started the garden seedlings indoors during the winter months but due to an ice storm the house was without electrical power for a week and everything froze. Joanne was not sure whether she would try germinating the seeds indoors again. She was in the process of devising a new plan for the garden, an alternative form of square foot gardening aimed at more production and less weeds.

The grape arbor was producing well and Ted had pruned the apple and pear trees. He explained,

Ted: I just took my chain saw out there one day and just cut them right down. They were so overgrown. I was afraid that I cut them down too much but, boy, they are really coming on this year. Of course, this had been a good year. . . . That was a pretty good experiment I think. I cut them right down, cut all the dead stuff and a lot of live stuff because there were

just too many branches on them, and we saw last year they weren't producing at all. . . . Boy, there's a lot of fruit out there this year (Interview 8, p. 25).³⁴

Joanne mentioned that she had tried to grow flowers. "I guess I better stick to vegetables," she exclaimed. All of the salvia she had planted along a south window had dried up. "It looks awful but I wanted to see what would come up in these flower beds before I dug around them," Joanne explained.

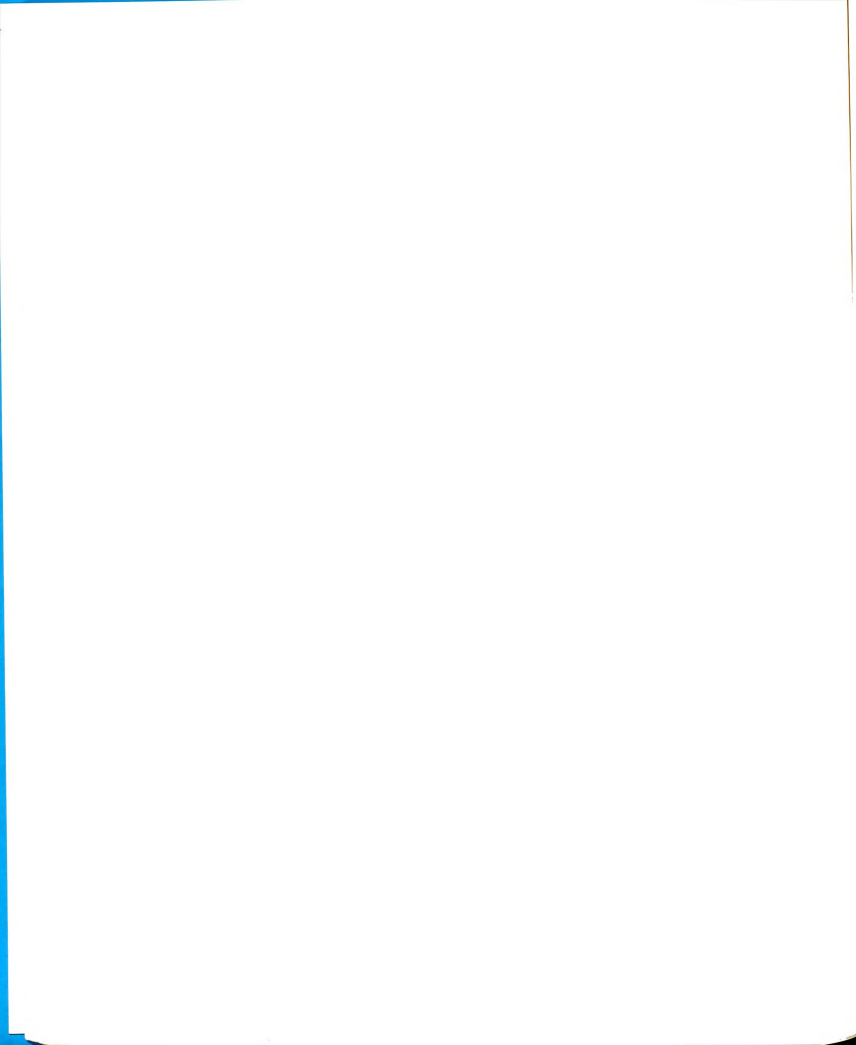
Their chickens had been butchered and Ted commented, "That's really good chicken." The hens did not produce as many eggs as desired so the Hardings decided to purchase point-of-lay hens. These would be ready to lay eggs immediately and some would be allowed to hatch chicks. The Hardings intended to give the chickens free range in the barnyard since this approach results in the production of higher quality eggs.

The Hardings had managed to keep the barn cleaned and organized. This was an on-going task, "like housecleaning", said Joanne, "you have to do it all the time." Ted was pleased with the work he had done in the barn, particularly the pen he designed for worming the sheep. The Hardings worked together to accomplish what they thought was going to be a difficult farm chore.

Joanne: It was so much easier than we thought it would be.

Ted: Yeah, Jo stood there just like a nurse, had one running when I was ready for her . . .

Joanne: We just couldn't believe it because we expected



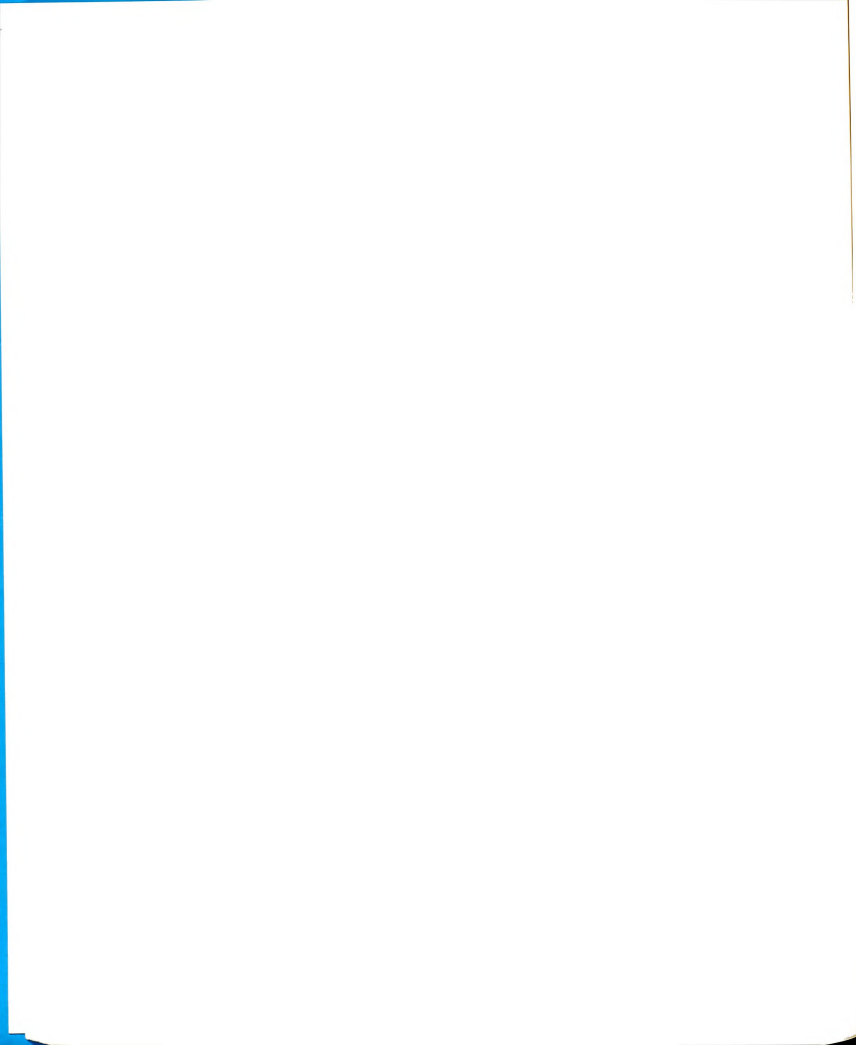
it to be really tough. . .

Ted: I think the way we've got the barn set up is a big plus in our favor (Interview 8, pp. 28-29).³⁵

The first cutting of hay was now in the barn. The second cutting hay had been sold to the Farm Learning Center. The Hardings talked about the need for an elevator to get the third cutting of hay into the barn loft.

Ted installed a temporary electrified barnyard fence constructed of netting. The fence could be easily moved. He explained that this type of fencing was constructed to minimize the loss of alfalfa. Permanent fencing on more acreage would have required a loss of several feet of alfalfa along the fence line. Ted's fencing could be moved as the sheep needed more grazing land and it did not obstruct the path of the tractor and mower deck when the alfalfa field was cut. But Ted was concerned about what might happen to the sheep when they were fenced in the back pasture.

Ted: It's working real well. My one concern is we're working the sheep back every week and when they get in the back (pasture) we won't be able to see them directly from the house . . . and my concern is the dog is back there and can go through that netting . . . but it is electrified and that's helpful. . . . The rest of the fence is on hold now. We might even sell back the posts (p. 30).³⁶

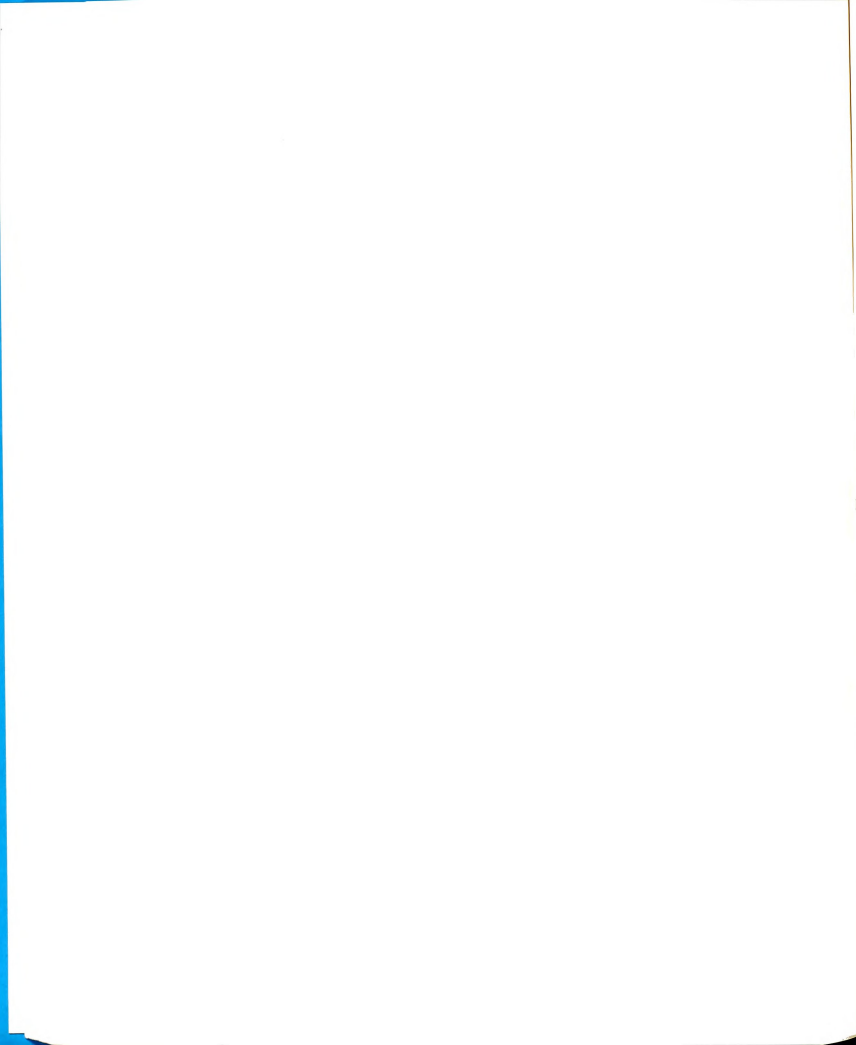


The Hardings were engaged in continual problem solving and decision making during their first year on the farm. Low risk experimentation was used to gain information and experience. For example, the Hardings decided to use artificial fertilizer on only half of the corn field. Ted observed that in parts of the unfertilized field the corn was stunted but in some sections it was as healthy as the corn in the fertilized field. Since the Hardings were interested in eventually growing all crops organically they decided not to use insecticides or herbicides on the corn or hay crop. Ted reported that there had been problems with alfalfa weevils in the area. Some of the farmers were using chemicals. Chemical treatment of the field would have cost the Hardings several hundred dollars. Ted decided to get the hay off the field to avoid an infestation of weevils but this delayed planting.

Ted: This kind of screwed up the whole two weeks planting. We got her off and it must be we hit at the right time because the second cutting . . . we really lucked out this time and I'm sure we'll have some next year. We'll have to watch it cause all the eggs are in the ground now but we hit it just right. . . . So we got away with that and we're getting some really good hay out there and no insecticides and I'm really comfortable with that (Interview 8, p.32).³⁷

Ted commented on how well they were doing with the hay crop.

Ted: You know it's really something . . . Joanne and

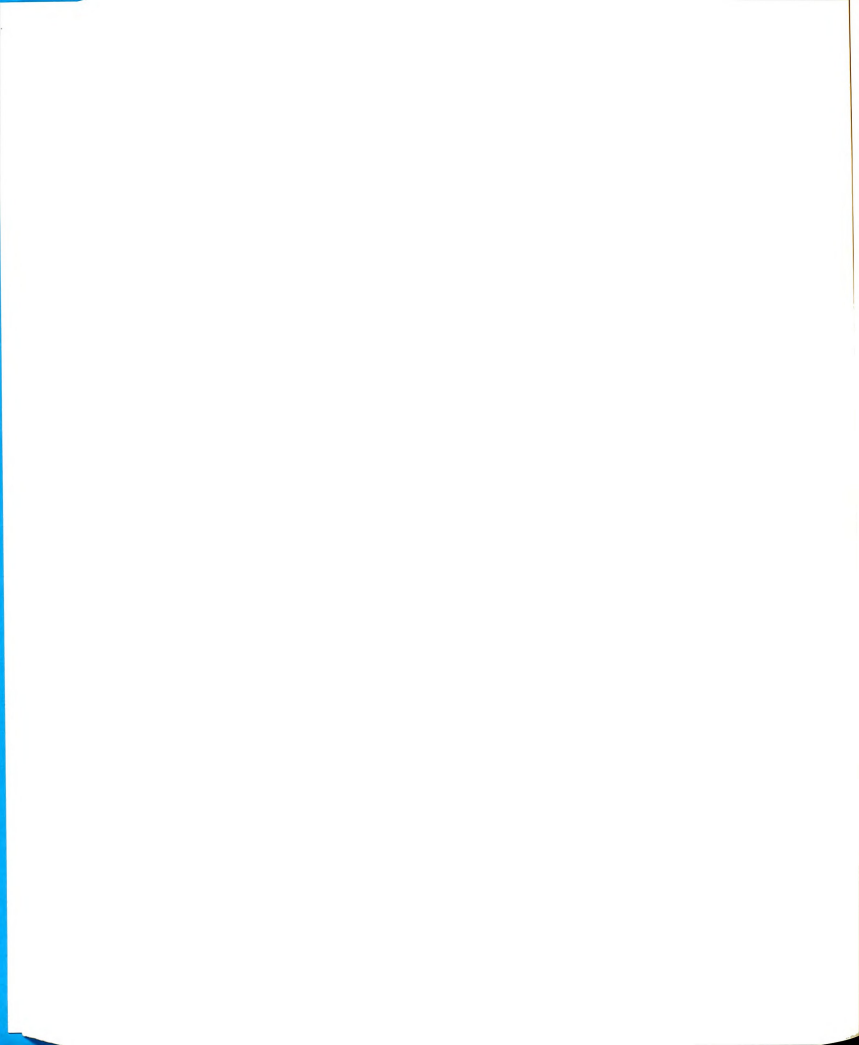


I have figured out that we are going to make out pretty good. We are going to be able to pay for all of our equipment. Well, not pay for it but we can make payments on it and pay for all the fertilizer and the corn and everything from the hay. So that's our cash crop and we are making out pretty good, I think (Interview 8 p. 35).³⁸

The Hardings were flexible with respect to their plan for getting livestock. They had originally planned to get rabbits and defer the purchase of feeder pigs until the following year but the pigs became available for a good price so Ted and Joanne decided to get pigs and defer getting the rabbits. The Hardings were given several geese and they decided to raise geese. By the end of their first year on the farm they also had a successful sheep operation. Ted and Joanne also participated in planning sessions for a workshop for sheep producers.

With respect to farm equipment Ted was particularly satisfied.

Ted: I'm particularly satisfied with our equipment, how it's running and operating and the tractor is running real good and no major breakdowns yet, and I think we're getting along pretty well on equipment. We could have sure been in a lot worse shape than we are, you know. The rake has lost its chain a couple of times, but we have been able to adjust it and get everything, keep everything in shape. I'm real satisfied with the equipment. I think we really



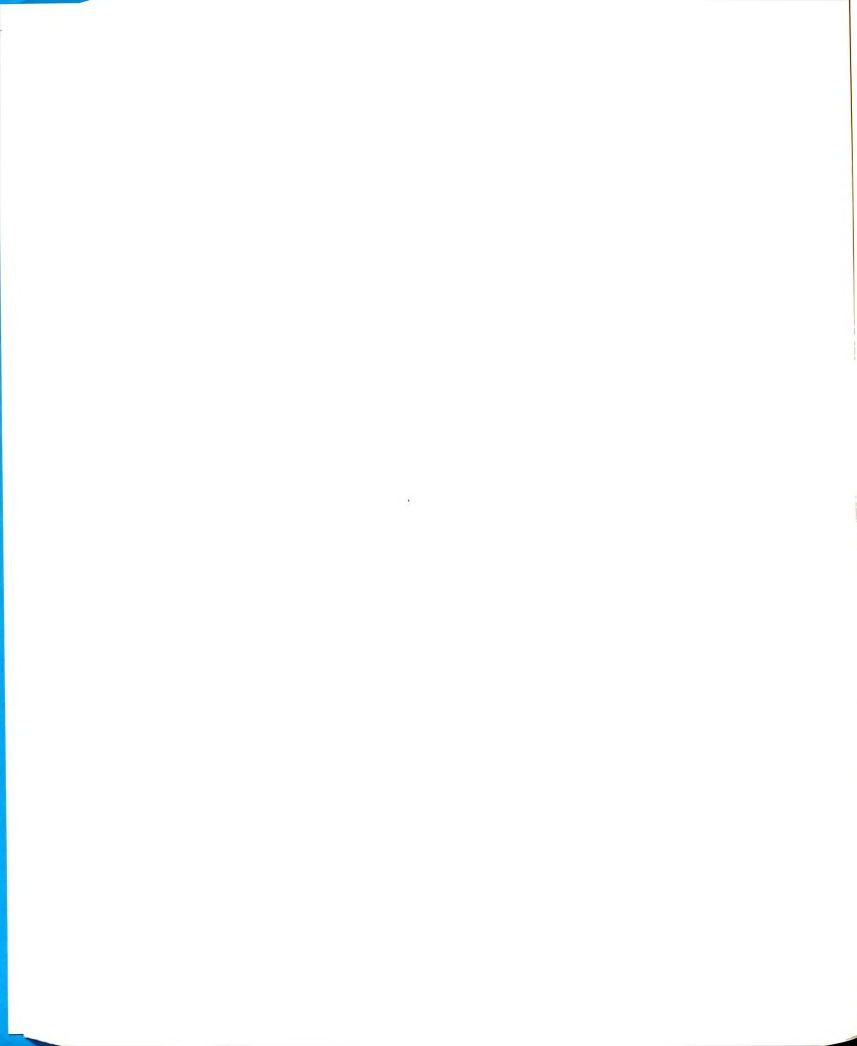
lucked out there. I've got to find an elevator this weekend and get it up in the hayloft . . . I'm going to buy one . . . I want a twenty foot elevator which isn't very big . . . the new ones are about \$400. I'm going to try to find a used one, that's all I need, you know (Interview 8, p. 34).³⁹

When asked how they felt about their goals and achievements, Joanne said, "I'm really pleased to see that we've achieved this many because it gives us, it's hard to remember where we were last Fall. . . We have come a long way" (p. 40).⁴⁰ The researchers asked whether their were other accomplishments. Ted responded:

Ted: I was thinking about all the learning we've done. You know just the farm type learning. Going through a season of a hayfield and having to manage it and doing it. It's a lot of hard work, you know, but it's very enjoyable, you know. It really is. You can't get around the sweat but you know you are really doing something for yourself and that you're doing it right, too. We've learned a lot this year (p. 40).⁴¹

The Hardings' adaptation to the farm was beautifully expressed by Ted and Joanne in a discussion of the floor plan for their home.

Ted: You spend enough time in a place like this and your personalities intermingle, and it just



becomes home. . . . I don't think a house can change to us, but we really kind of mold right into the house.

Joanne: . . . we don't entirely adapt to the house, and the house isn't entirely adapted to us, but I think the house and we suit each other. It's a country house and we're country people
(Interview 13, p. 47-48).

In their discussion of the ecomap, after describing all of the various support systems and resource exchange networks depicted, Ted commented, "Basically I feel at home down here now."

Preliminary Hypotheses and Third Matrix of Interrelated Concepts

Table 3 presents the third matrix of interrelated concepts associated with the Hardings' life on the farm. Several preliminary hypotheses are generated from the interpretation of "Life on the Farm."

HYPOTHESES:

3. Power becomes the predominant target goal when physical and economic security are threatened.
4. The use of economic resources (money and goods) is predominant with respect to the realization of physical/material and economic values.
5. The use of noneconomic resources (information, love, status, and services) is predominant with respect to the realization of sentimental, social, professional, intellectual, spiritual, moral/political, and aesthetic values.

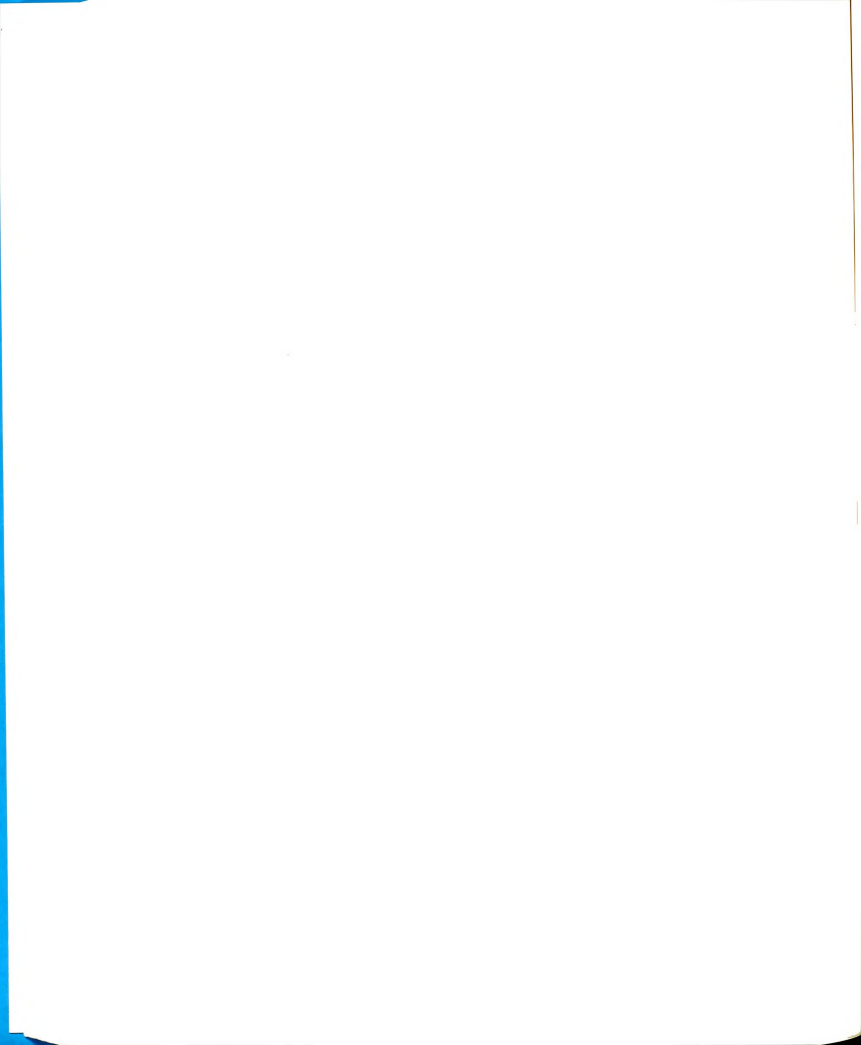


Table 3. Third Matrix of Interrelated Concepts: Life on the Farm

| STATEMENTS | RESOURCES | RESOURCE CHANNELS | ACCESS MECHANISMS | NEEDS | VALUES DOMAINS | VALUES BENEFITS | TARGET GOALS |
|--|---|-------------------|----------------------------------|---|---|---|------------------|
| 1. "Everything going as I had planned...house ...jobs...hay crop..." | Goods
Money | Time | Synchronizing
Clocking | Physical/Security | Physical/Material
Economic | Comfort
Economic Security
Productiveness | Power |
| 2. "But to me ... working in the barn...therapy for me." | Services | Energy | Fueling | Self-actualization | Spiritual | Peace of Mind | Meaning |
| 3. "As far as values go... home grown foods ...doing things for ourselves...knowing (knowing) ...sustainable skills... self-satisfaction... country living... nature..." | Goods
Status
Information
(knowing) | Energy
Space | Fueling
Investing
Bounding | Physical/Security
Self-actualization | Physical/Material
Spiritual
Aesthetic | Health
Productiveness
Peace of Mind
Beauty | Power
Meaning |
| 4. "My values... looking at the row of pines...sets the tone..." | Goods
(Nature's)
Services
(Nature's) | Energy | Fueling | Self-actualization | Spiritual
Aesthetic | Peace of mind
Beauty | Meaning |
| 5. "I like to work on stuff myself...see how things fit together..." | Information | Energy | Fueling | Self-actualization | Intellectual | Competence | Meaning |

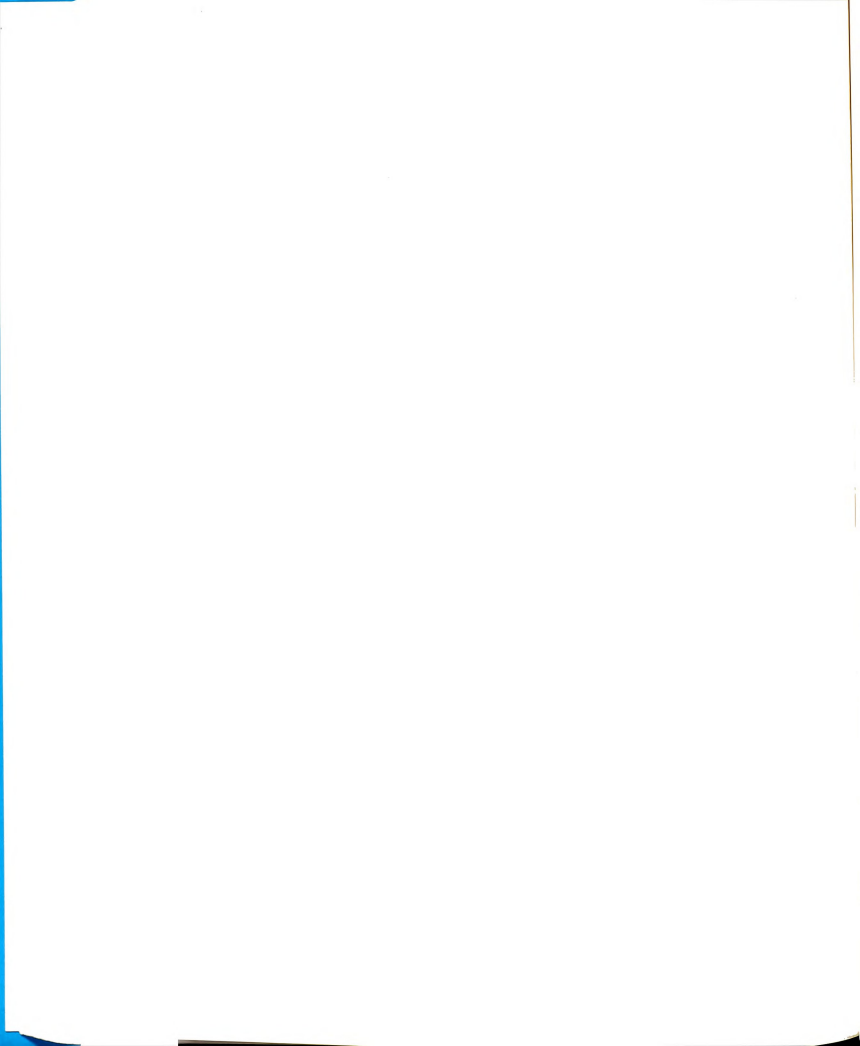


Table 3. (cont'd)

| STATEMENTS | RESOURCES | RESOURCE CHANNELS | ACCESS MECHANISMS | NEEDS | VALUES DOMAINS | VALUES BENEFITS | TARGET GOALS |
|---|-----------------------------------|-------------------------|--|--|---|--|----------------------------|
| 6. "I really enjoy... working for us, for the project... feel good." | Services
Status | Energy | Fueling | Psycho-social
Self-actualization | Professional
Spiritual | Recognition
Peace of mind | Affect
Meaning |
| 7. "What I'd really like to see...what we do...information...people benefit from it." | Services
Information
Status | Energy/
Time | Investing
Orienting
(future) | Self-actualization
Psycho-social | Intellectual
Professional | Competence
Success
Recognition | Affect
Meaning |
| 8. "There's more protein in turnips...be a key...hope my efforts will mean something...help a lot of people." | Services
Information
Status | Energy | Investing
Fueling | Self-actualization
Psycho-social | Intellectual
Professional
Social | Competence
Success
Recognition
Togetherness
(connectedness) | Affect
Meaning |
| 9. "...to help other people...revolution coming in agriculture...be a part of it." | Services
Status | Energy
Space | Fueling
Investing
Linking | Self-actualization
Psycho-social | Moral/Political
Social
Professional | Freedom
Togetherness
Recognition | Affect
Meaning |
| 10. "I want this project as a means...the end..." | Information
Service | Energy | Fueling
Investing | Self-actualization | Spiritual | Peace of Mind | Meaning |
| 11. "I tell everybody I'm a beginner, ask people, don't need to have the best allata stand..." | Information
Status
Goods | Energy
Space
Time | Fueling
(surveying)
Bounding
Clocking | Physical/Security
Psycho-social
Self-actualization | Physical/Material
Economic
Professional
Intellectual | Physical Security
Economic Security
Productiveness
Recognition
Success
Competence | Power
Affect
Meaning |

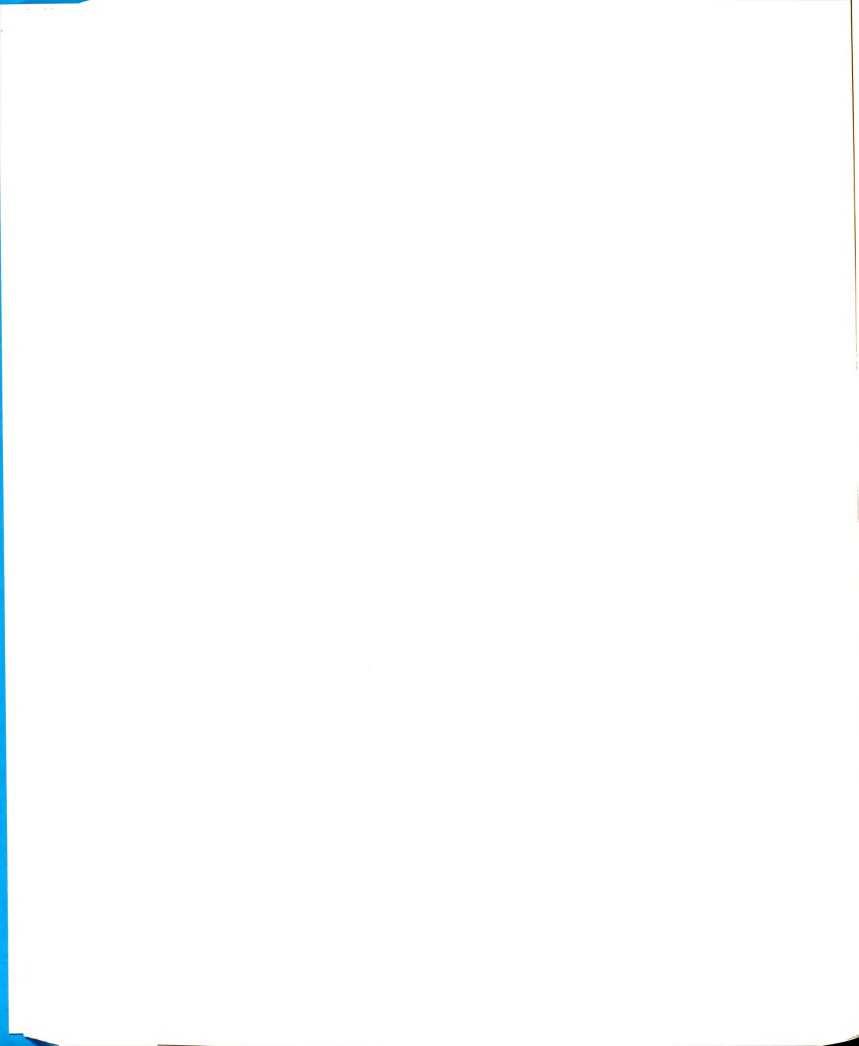


Table 3. (cont'd)

| STATEMENTS | RESOURCES | RESOURCE CHANNELS | ACCESS MECHANISMS | NEEDS | VALUES DOMAINS | VALUES BENEFITS | TARGET GOALS |
|--|--------------------|-------------------|---------------------------|--|---------------------------|--------------------------------|----------------------|
| 12. "For now...a lot of my energy...contacts...extension office...sheep people...library..." | Information | Energy Time Space | Fueling Orienting Linking | Self-actualization Psycho-social Physical/Security | Intellectual | Competence | Meaning Power Affect |
| 13. "I've met people who work on farms...energies here...community coming to us...gratifying too." | Information Status | Energy Space | Fueling Linking | Self-actualization Psycho-social | Intellectual Professional | Competence Recognition Success | Meaning Power Affect |
| 14. "Oh, they're really interested...The whole family helped..." | Status Service | Space | Linking (recognizing) | Psycho-social | Sentimental Professional | Acceptance Recognition | Affect |
| 15. "We've got our close friends...always stay close." | Love | Space | Linking | Psycho-social | Sentimental | Love | Affect |
| 16. "A friend takes time to develop...they'll come to visit us." | Love | Time Space | Clicking Linking | Psycho-social | Sentimental | Love | Affect |
| 17. "I continually read...outside...is my religion." | Information | Energy Time | Fueling Orienting | Self-actualization | Intellectual Spiritual | Clear Conscience Peace of Mind | Meaning |

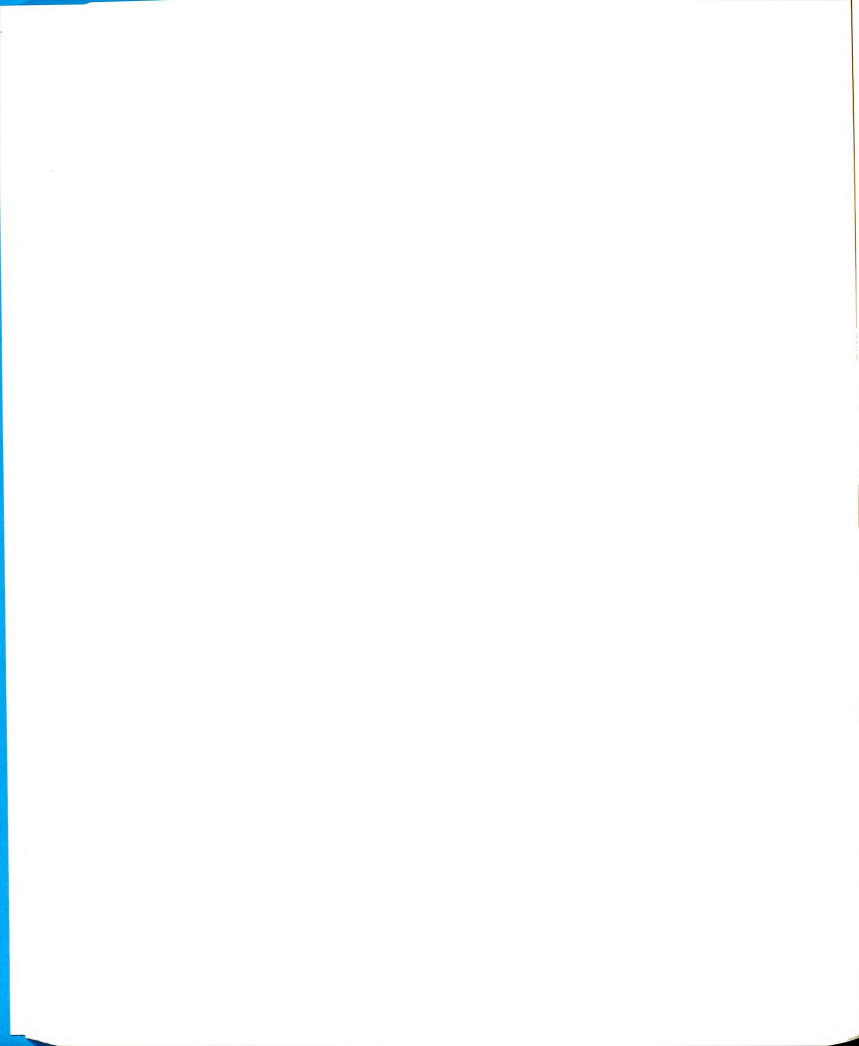


Table 3. (cont'd)

| STATEMENTS | RESOURCES | RESOURCE CHANNELS | ACCESS MECHANISMS | NEEDS | VALUES DOMAINS | VALUES BENEFITS | TARGET GOALS |
|---|----------------------|-------------------|-------------------------------------|-------------------|-------------------------------|--|--------------|
| 18. "I generated a lot of income... spent a lot... transition is tough." | Money
Goods | Time | Or ^{ienting} | Physical/Security | Physical/Material
Economic | Physical Security
Economic Security | Power |
| 19. "My short term goals...to keep going...body in shape...necessities." | Money
Goods | Time | Clock ^{ing} | Physical/Security | Physical/Material
Economic | Health
Physical Security
Economic Security | Power |
| 20. "A priority...get a dryer...curtains...rugs...wallpaper..." | Goods | Time | Synchronizing
(priority setting) | Physical/Security | Physical/Material | Comfort
Physical Security | Power |
| 21. "Right now... I'm learning... economically sufficient without chemicals... something to shoot for." | Information
Money | Time | Clock ^{ing} | Physical/Security | Economic | Economic Security
Productiveness | Power |
| 22. "Can't spend anymore than you have to...we bought a tractor...hay equipment... maintain it..." | Money
Goods | Time
Energy | Clock ^{ing}
Investing | Physical/Security | Economic | Economic Security
Productiveness | Power |
| 23. "How...handle 3 acres of wheat...combine, elevators, grain wagon...too many problems." | Money
Goods | Time
Energy | ? | Physical/Security | Economic | Productiveness | Power |

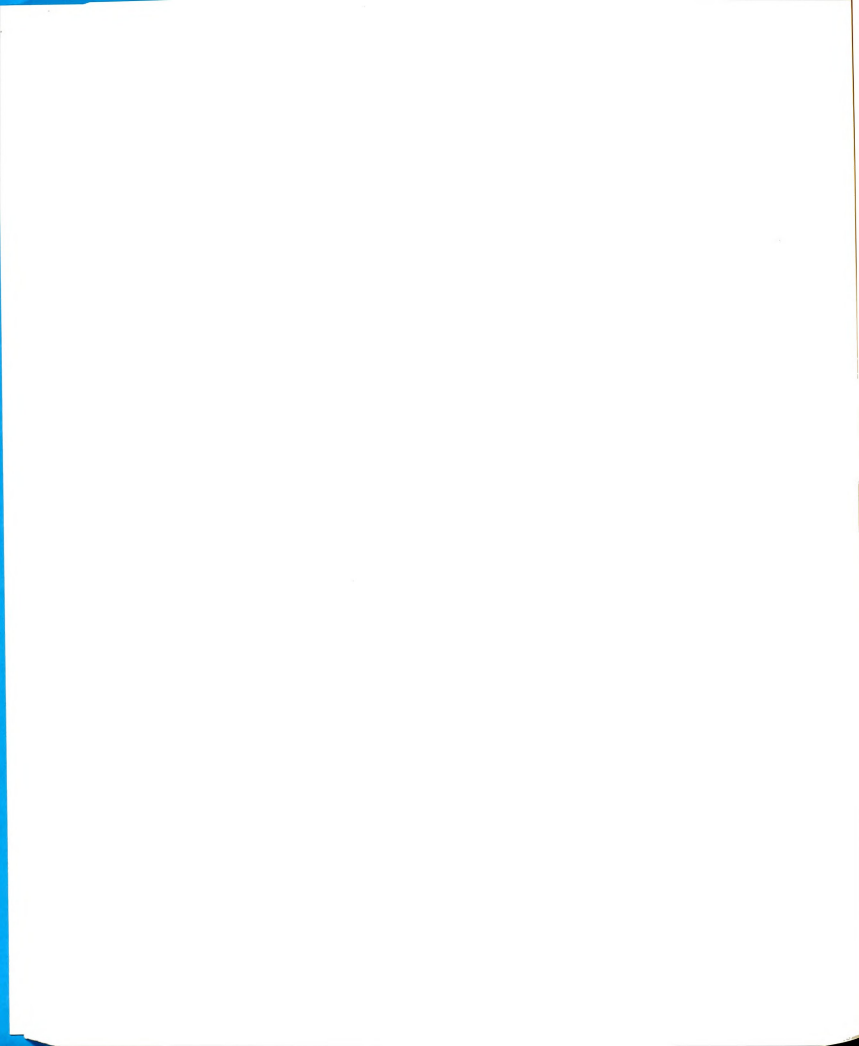


Table 3. (cont'd)

| STATEMENTS | RESOURCES | RESOURCE CHANNELS | ACCESS MECHANISMS | NEEDS | VALUES DOMAINS | VALUES BENEFITS | TARGET GOALS |
|---|--|-------------------------|--|--|--|--|----------------------------|
| 24. "Biggest thing we have is resourcefulness...don't know something, who does...always learning." | Information | Space
Time
Energy | Linking
Centering
Synchronizing
Fueling | Self-actualization
Physical/Security
Psycho-social | Intellectual
Physical/Material
Professional | Competence
Physical Security
Togetherness (connectedness)
Success | Meaning
Power
Affect |
| 25. "We compromised...contacted different people...decided...we'll buy some sheep...started looking around...good friend gave us four...we'll give him a good ram...He's really helped us out with his plow." | Information
Love
Goods
Money
Service
Status | Space
Time
Energy | Bounding
Clocking
Fueling
Investing | Physical Security
Psycho-social
Self-actualization | Economic
Sentimental
Social
Professional
Intellectual
Moral/Political | Economic Security
Productiveness
Love
Togetherness
Success
Competence
Fairness | Power
Affect
Meaning |
| 26. "We waited...I supplied the information...a mutual decision..." | Information | Time | Synchronizing | Physical/Security | Economic | Economic Security | Power |
| 27. "...one thing at a time...expanding our herd...get the pasture ready...paddock system...fence..." | Goods | Time | Synchronizing
Clocking | Physical/Security | Physical/Material | Physical Security | Power |
| 28. "...I found...corn planter...\$450...but can borrow...\$5 an acre." | Goods
Money
Information | Time
Energy | Synchronizing
Investing | Physical/Security | Economic | Economic Security
Productiveness | Power |

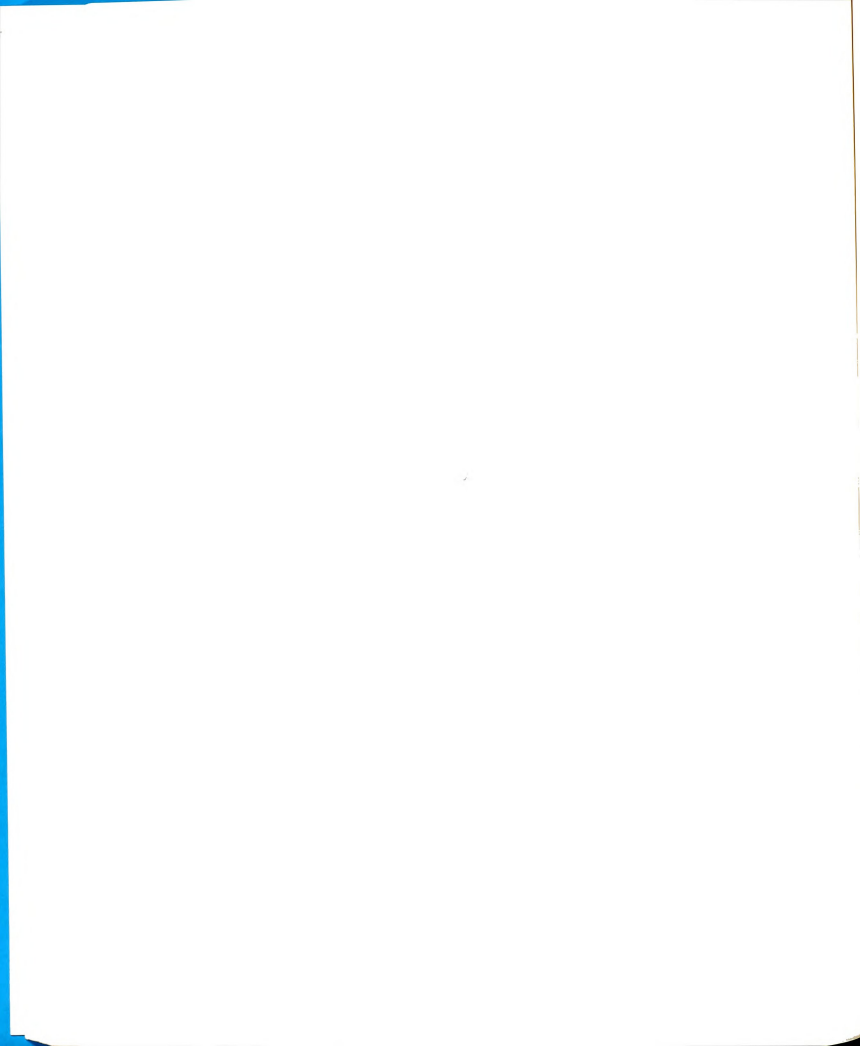


Table 3. (cont'd)

| STATEMENTS | RESOURCES | RESOURCE CHANNELS | ACCESS MECHANISMS | NEEDS | VALUES DOMAINS | VALUES BENEFITS | TARGET GOALS |
|--|--|-------------------------|--|--|--|--|----------------------------|
| 29. "They are interested...expose students to us... good deal but both ..in good with your neighbors...pigs for a good price." | Money
Services
Information
Status | Space | Bounding | Physical/Security
Psycho-social | Economic
Social
Sentimental
Professional | Economic Security
Productiveness
Neighborhoodness
Acceptance
Recognition | Power
Affect |
| 30. "...it would have been risky to purchase old stuff from a stranger... don't have books ...this one I know who used it." | Information | Space | Bounding | Physical/Security
Psycho-social | Economic
Sentimental | Economic Security
Acceptance | Power
Affect |
| 31. "...getting done what we had to get done here and that was primary... chicks and geese... discontinue Joanne's off-farm employment." | Goods
Money
Services | Space
Time
Energy | Bounding
Synchronizing
Invailing | Physical/Security
Psycho-social
Self-actualization | Physical/Material
Economic
Social
Spiritual | Physical Security
Economic Security
Togetherness
Peace of Mind | Power
Affect
Meaning |
| 32. "...pounded staples in and marked boards...Ted ...really appreciated..." | Service | Space | Bounding
Linking | Psycho-social | Social | Togetherness | Affect |
| 33. "...make things believable for the project...being thrifty...we've got our sheep, chicks, pigs are coming...one step at a time." | Status
Money
Goods | Time | Synchronizing
Clocking | Physical/Security
Psycho-social | Economic
Professional | Productiveness
Success | Power
Affect |

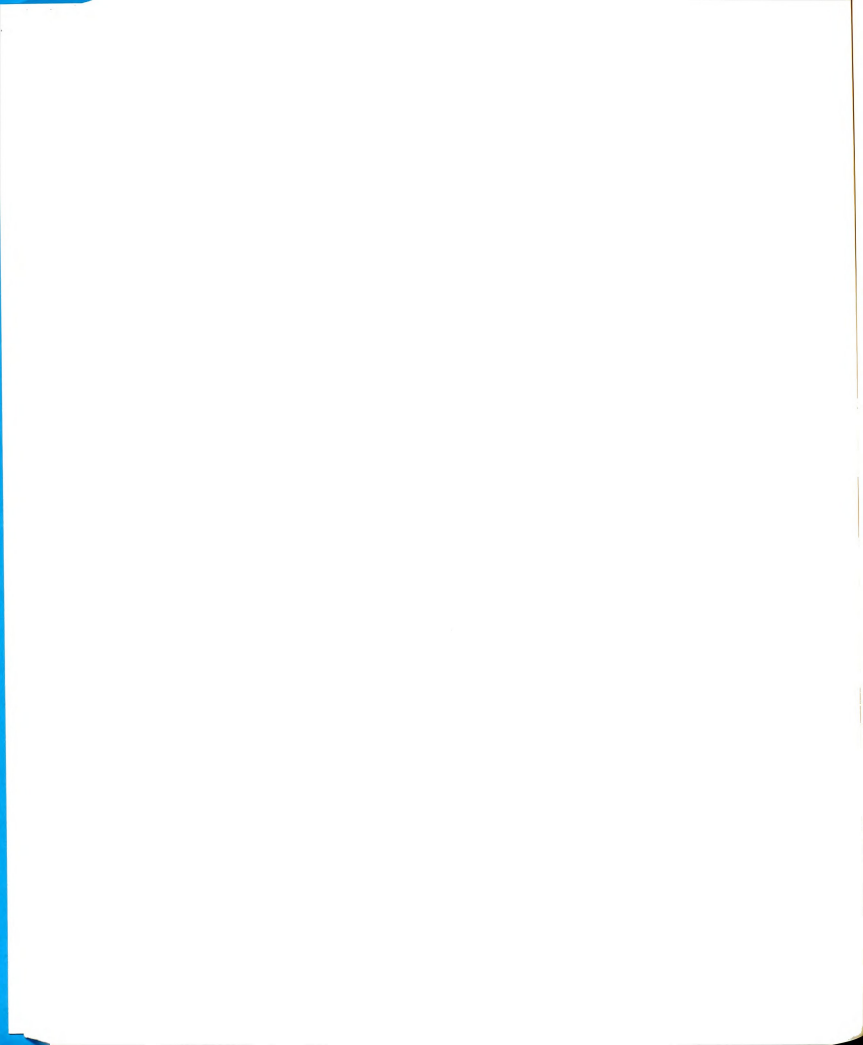


Table 3. (cont'd)

| STATEMENTS | RESOURCES | RESOURCE CHANNELS | ACCESS MECHANISMS | NEEDS | VALUES DOMAINS | VALUES BENEFITS | TARGET GOALS |
|--|--------------------------------|-------------------|----------------------|---|--|--|-----------------------------|
| 34. "...chain saw... experiment...weren't producing...a lot of fruit...this year..." | Goods | Time | Clocking | Physical/Security | Economic | Productiveness | Power |
| 35. "...easier than we thought...like a nurse...can set up is a big plus in our favor." | Services
Status | Time | Synchronizing | Psycho-social | Social
Professional | Togetherness
Success | Affect
Power
(skills) |
| 36. "It's (the fence) working real well ... electrified... might sell back the posts." | Goods
Money | Space | Bounding | Physical/Security | Physical/ Material
Economic | Physical/Security
Economic
Security | Power |
| 37. "Chemical treatment costs several thousand dollars... second cutting... at the right time... really good hay... no insecticides... comfortable with that." | Goods
Status
Information | Time
Space | Clocking
Bounding | Physical/Security
Self-actualization | Economic
Physical/Material
Intellectual
Spiritual
Professional | Productiveness
Economic
Security
Competence
Peace of Mind
Success | Power
Meaning |
| 38. "...really something Joanne and I...able to pay for...equipment ...hay...cash crop... we are...pretty good." | Money
Goods
Status | Time | Synchronizing | Physical/Security
Psycho-social | Economic
Professional | Economic
Security
Productiveness
Success | Power
(skills) |

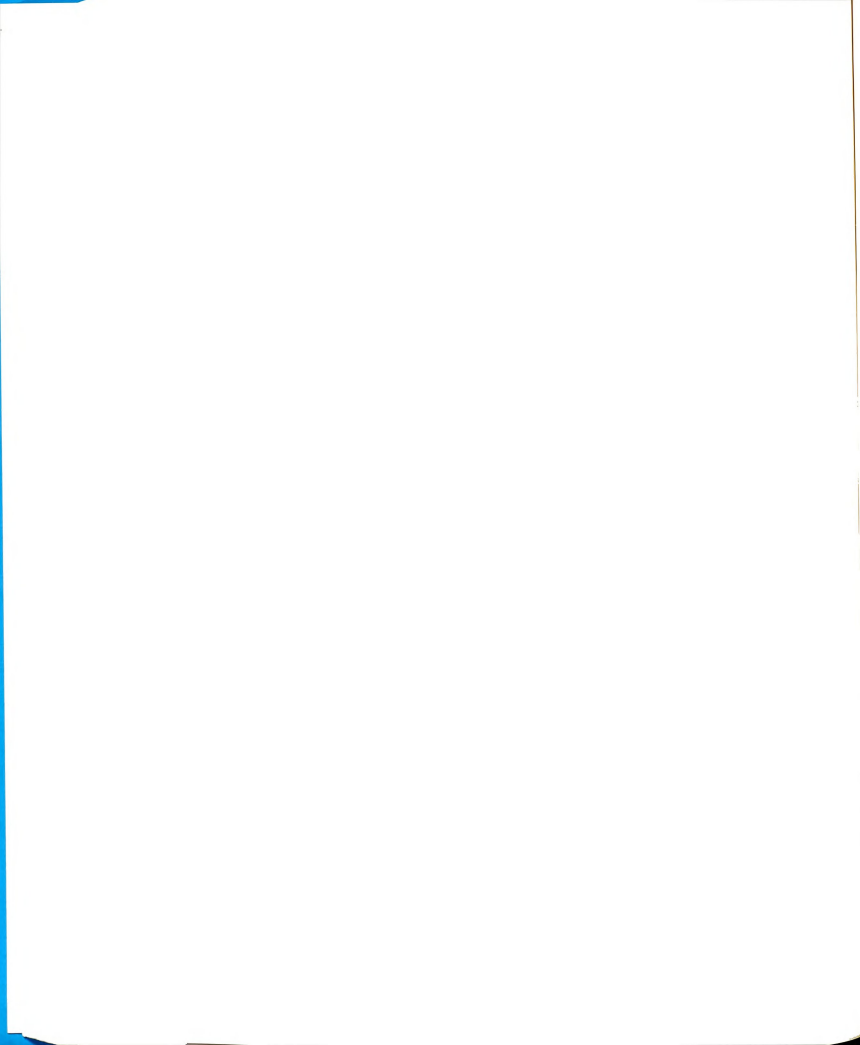
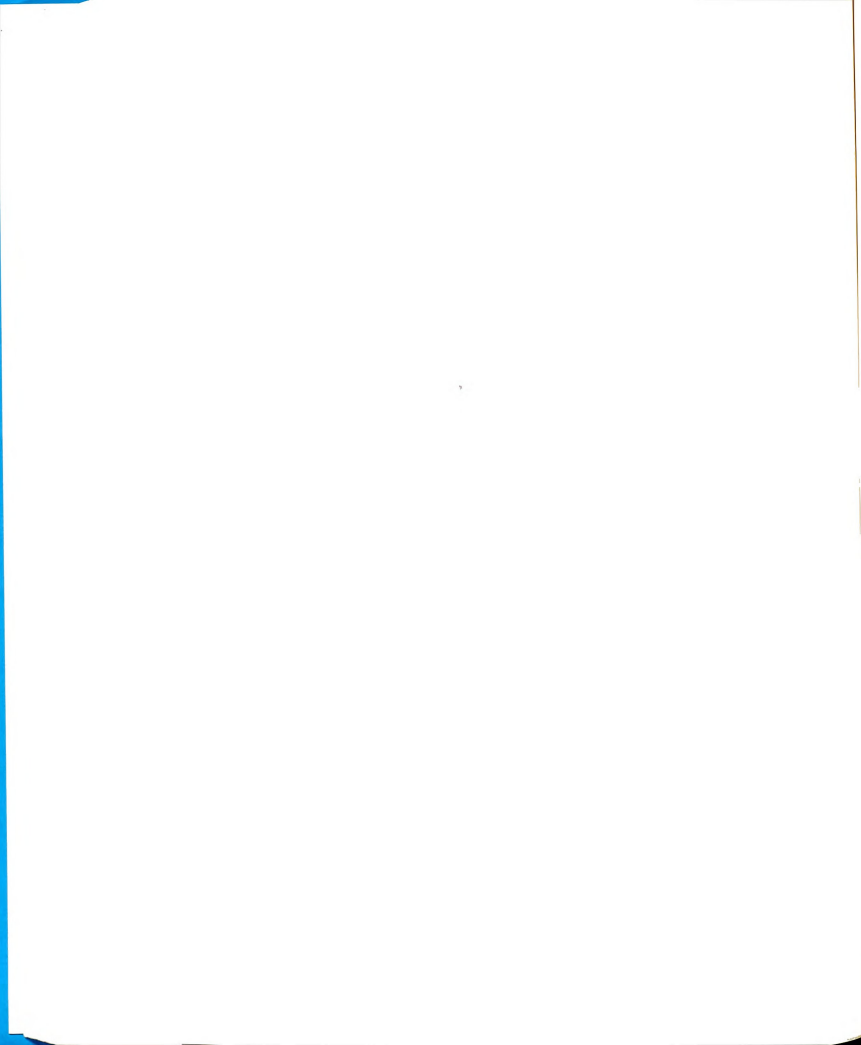


Table 3. (cont'd)

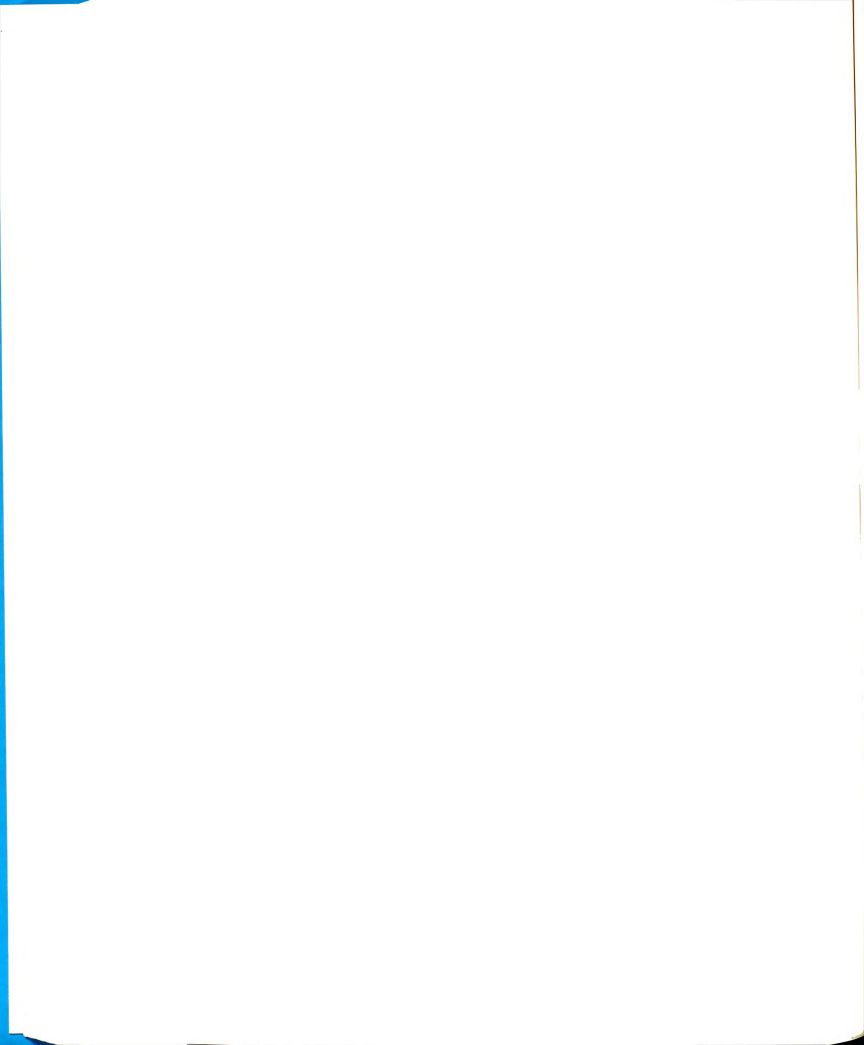
| STATEMENTS | RESOURCES | RESOURCE CHANNELS | ACCESS MECHANISMS | NEEDS | VALUES DOMAINS | VALUES BENEFITS | TARGET GOALS |
|---|---|-------------------|-------------------------|---|------------------------------|--------------------------------------|---------------------------|
| 39. "...satisfied with equipment able to... keep everything in shape...find an elevator...buy one." | Goods
Money
Status
Information | Time
Energy | Clocking
Fueling | Physical/Security
Self-actualization | Economic
Intellectual | Economic Security
Competence | Power (skills)
Meaning |
| 40. "I'm really pleased ...we've achieved this many (goals)... remember...last fall." | Status | Time
Energy | <u>Orienting (Past)</u> | Self-actualization
Psycho-social | Intellectual
Professional | Competence
Success
Recognition | Meaning
Affect |
| 41. "...all the learning we've done ...hay field ...hard work... very enjoyable... for yourself...learned a lot this year." | Information
Goods
Status | Energy | Investing | Self-actualization | Intellectual | Competence | Meaning
Power (skills) |



Chapter V

Toward an Explanation of the Interrelationship between Human Values and Resource Management

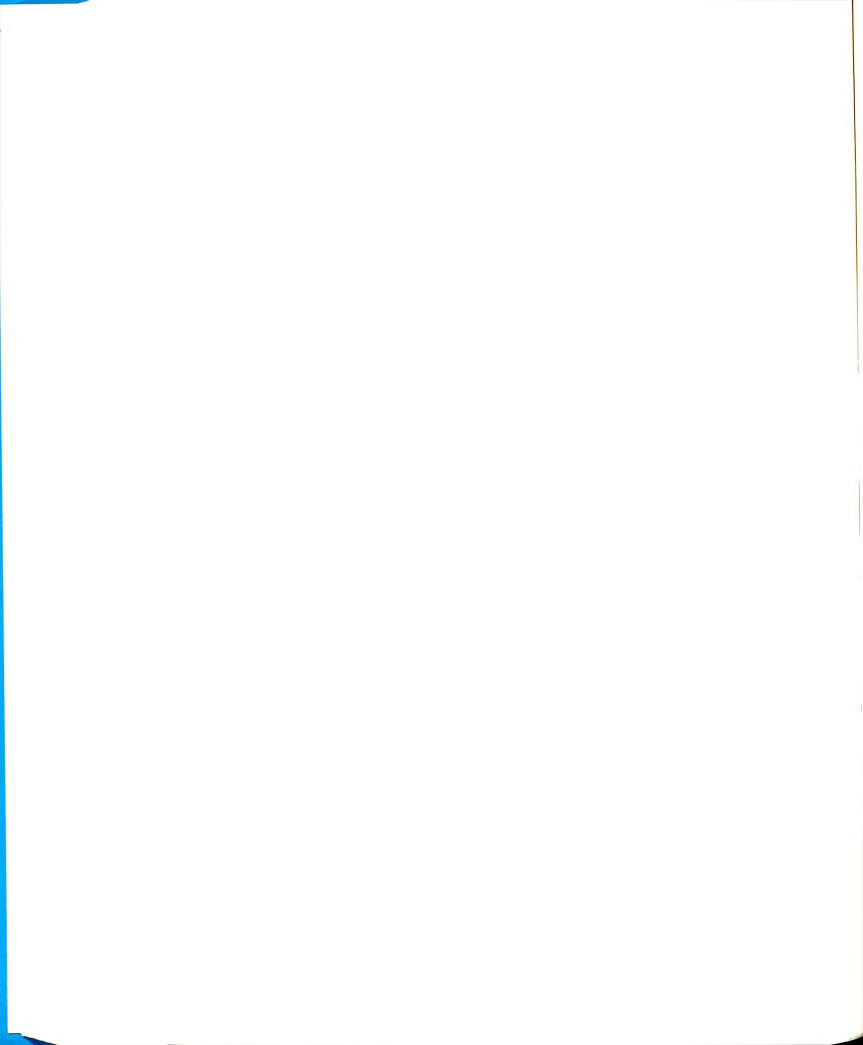
The purpose of this dissertation is to pose a framework of the ecological interrelationship between human values and resource management. For the Hardings, values and resources were integrated around the dominant theme of their "vision of the good life" on a small scale farm. The Hardings chose the small scale farm as the central environment for realizing values, accessing power, affect, and meaning in life, and meeting needs. During the course of their first year on the farm (through various interviews, assessment tools, and records) Ted and Joanne described their way of life. The data contained explicit or implicit reference to values, resources, and resource management; including time, space, and energy dimensions and mechanisms. Interpretation of the data was an emergent process involving the development of several matrices of interrelated concepts which were used as an organizing and supportive framework. This chapter describes the evolution of the process and presents a summary of the author's observations regarding the interrelationship between values and resource management.



Data Interpretation: An Integrative Process

Content analysis of the first interview with Ted and Joanne Harding led to the choice of Rescher's classification of values according to the nature of the benefit as part of a beginning framework for organization of the data. The integrative framework of human needs, values, goals, and resource channels (Figure 1) was developed in concert with the development of coding categories for the values data. The author observed that the values content of the interviews could also be classified according to target goals (i.e., power, affect, and meaning) and further classified according to human needs. Human needs concepts were seen as germane to Rescher's (1982) classification of values; family process theory [target dimensions (goals), access dimensions, and access mechanisms as presented by Kantor and Lehr (1975)]; and as integral to the resource exchange theory of Foa and Foa (1973). Types of needs, values, and target goals were seen as conceptually interfacing with one another and interacting with types of resources, resource channels (access dimensions), and access mechanisms.

The Hardings' farm proposal was reviewed and summarized for the purpose of delineating their goals and aspirations concerning the small scale farm lifestyle. Three key statements were identified as an expression of the Hardings' vision of the good life with respect to their aspirations for life on a small scale farm. These statements contained explicit or implicit reference to needs, values, and target goals, as well as resources, resource channels, and access mechanisms. The coding categories were extended to include resources, resource channels, and access mechanisms. A matrix format was developed as a



scheme for coding the interview data. As statements were listed in the matrix and coded according to the scheme of interrelated concepts, relationships began to emerge. Interpretation of the data was supported and clarified through this process. This same process was used in analysis and interpretation of the Hardings' family history and background and their first year on the farm. Three matrices and five hypotheses were developed in this stage of analysis and interpretation.

Preliminary Hypotheses and Final Matrix of Interrelated Concepts

A final matrix was developed by grouping statements from all of the matrices according to the underlying type of need or combination of needs alluded to by the Hardings. Table 4 presents the final matrix. In this matrix the statements are numbered according to the following system:

- 1.1 refers to statement number one in the first matrix.
- 2.1 refers to statement number one in the second matrix.
- 3.1 refers to statement number one in the third matrix.

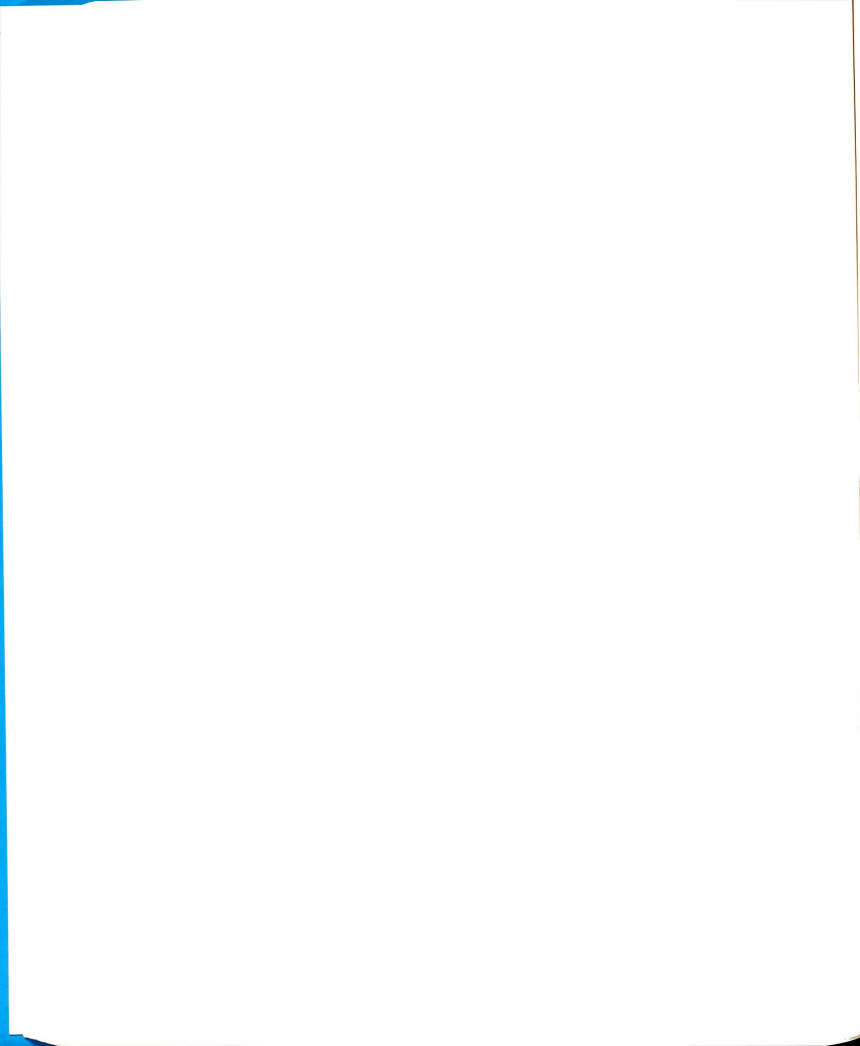


Table 4. Final Matrix of Interrelated Concepts by Needs

Physical/Security Needs

| STATEMENTS | RESOURCES | RESOURCE CHANNELS | ACCESS MECHANISMS | VALUES DOMAINS | VALUES BENEFITS | TARGET GOALS |
|--|-------------------------------|-------------------|-------------------------------------|-------------------------------|--|--------------|
| 1.1. "The small scale farmer needs information...to produce...food economically... resource education center..." | Information
Goods
Money | Space
Time | Centering
Clocking | Physical/Material
Economic | Health
Economic Security
Productiveness | Power |
| 3.1. "Everything going as I had planned....house ...jobs...hay crop..." | Goods
Money | Time | Synchronizing
Clocking | Physical/Material
Economic | Comfort
Economic Security
Productiveness | Power |
| 3.18. "I generated a lot of income... spent a lot... transition is tough." | Money
Goods | Time | <u>Orienting</u> | Physical/Material
Economic | Physical Security
Economic Security | Power |
| 3.19. "My short term goals...to keep going ...body in shape ...necessities." | Money
Goods | Time | Clocking | Physical/Material
Economic | Health
Physical Security
Economic Security | Power |
| 3.20. "A priority...get a dryer...curtains... rugs...wallpaper..." | Goods | Time | Synchronizing
(priority setting) | Physical/Material | Comfort
Physical Security | Power |
| 3.21. "Right now... I'm learning... economically sufficient without chemicals... something to shoot for." | Information
Money | Time | Clocking | Economic | Economic Security
Productiveness | Power |

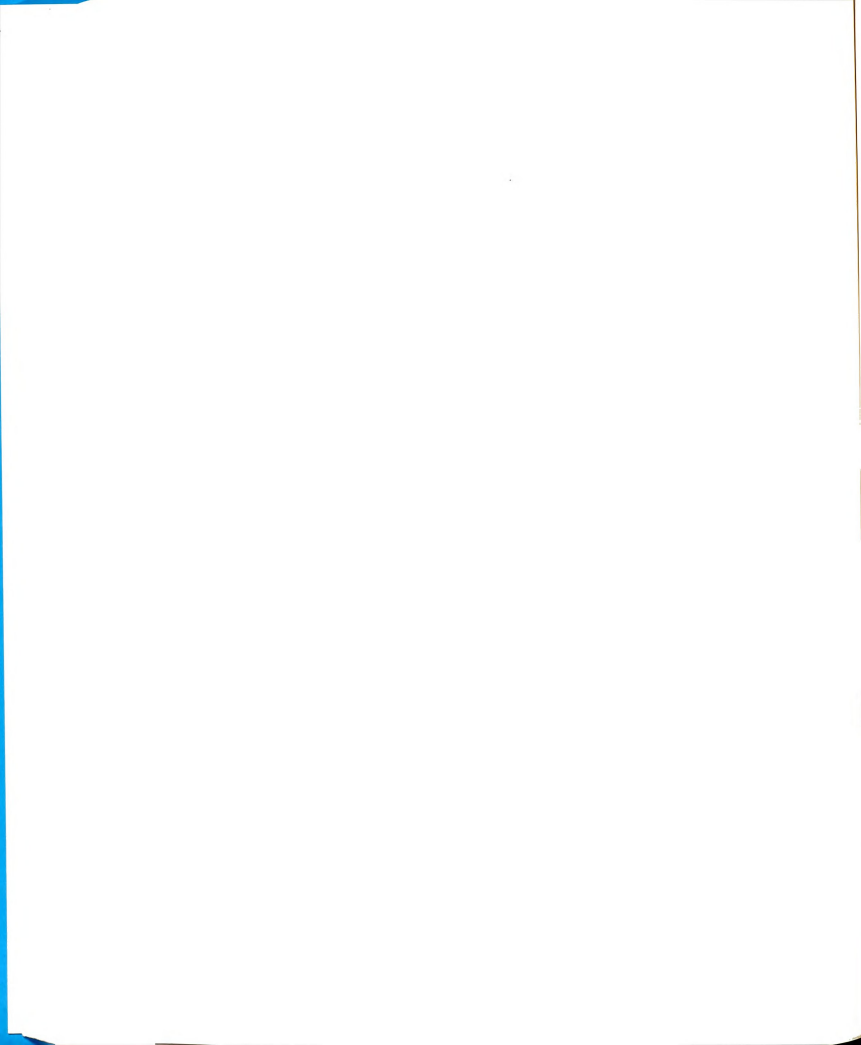


Table 4. (cont'd)

Physical/Security Needs

| STATEMENTS | RESOURCES | RESOURCE CHANNELS | ACCESS MECHANISMS | VALUES DOMAINS | VALUES BENEFITS | TARGET GOALS |
|---|-------------------------------|-------------------|----------------------------|-------------------|-------------------------------------|--------------|
| 3.22. "Can't spend any more than you have to...we bought a tractor...hay equipment...maintain it..." | Money
Goods | Time
Energy | Clocking
Investing | Economic | Economic Security
Productiveness | Power |
| 3.23. "How...handle 3 acres of wheat...combine, elevators, grain wagon...too many problems..." | Money
Goods | Time
Energy | ? | Economic | Productiveness | Power |
| 3.26. "We waited...I supplied the information...a mutual decision..." | Information | Time | Synchronizing | Economic | Economic Security | Power |
| 3.27. "...one thing at a time...expanding our herd...get the pasture ready...paddock system...fence..." | Goods | Time | Synchronizing
Clocking | Physical/Material | Physical Security | Power |
| 3.28. "...I found...corn planter...\$450...but can borrow...\$5 an acre..." | Goods
Money
Information | Time
Energy | Synchronizing
Investing | Economic | Economic Security
Productiveness | Power |

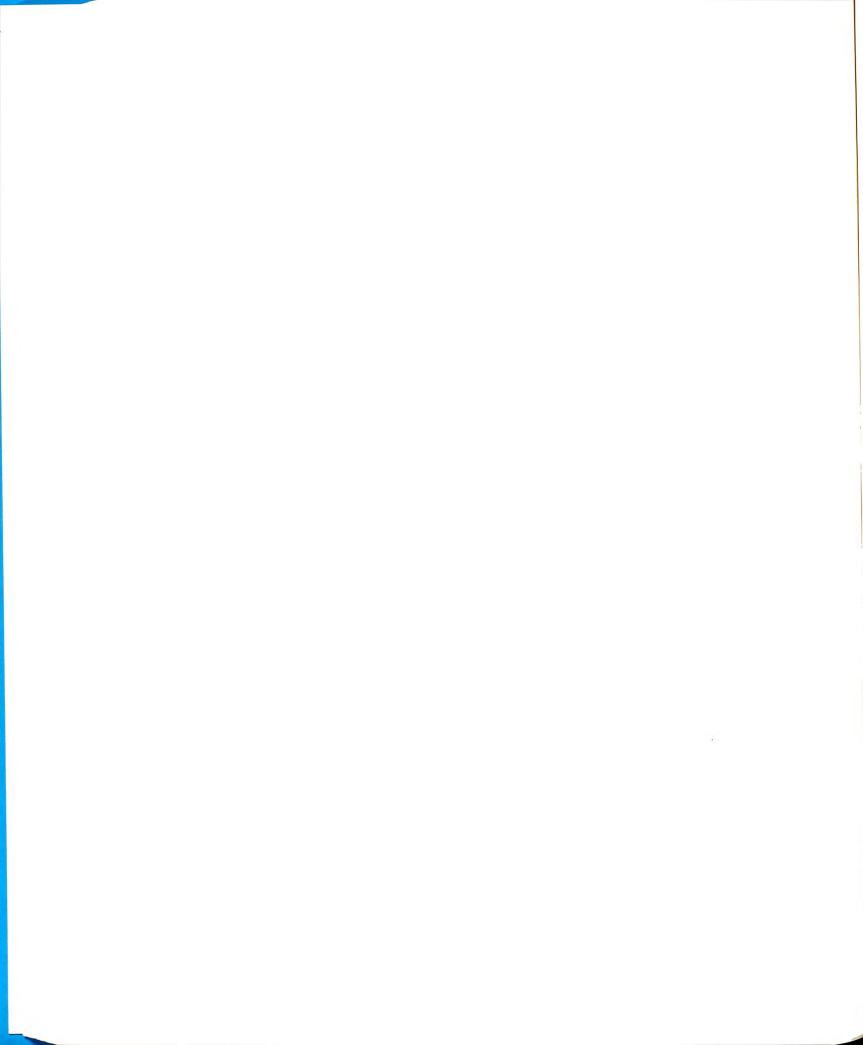


Table 4. (cont'd)

Physical/Security Needs

| STATEMENTS | RESOURCES | RESOURCE CHANNELS | ACCESS MECHANISMS | VALUES DOMAINS | VALUES BENEFITS | TARGET GOALS |
|--|----------------|-------------------|-------------------|--------------------------------|--|--------------|
| 3.34. "...chain saw... experiment...weren't producing...a lot of fruit...this year...." | Goods | Time | Clocking | Economic | Productiveness | Power |
| 3.36. "It's (the fence) working real well ... electrified... might sell back the posts." | Goods
Money | Space | Bounding | Physical/ Material
Economic | Physical/Security
Economic Security | Power |

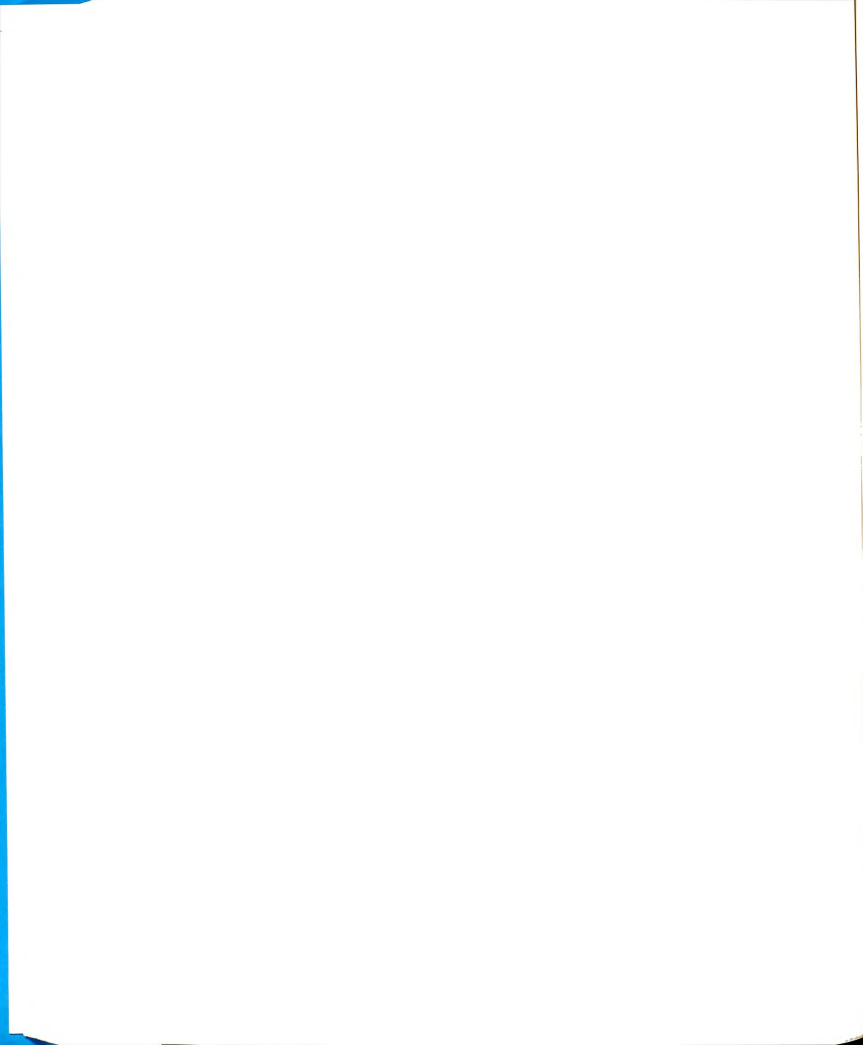


Table 4. (cont'd)

Psycho-social Needs

| STATEMENTS | RESOURCES | RESOURCE CHANNELS | ACCESS MECHANISMS | VALUES DOMAINS | VALUES BENEFITS | TARGET GOALS |
|--|-----------|-------------------|--------------------------|-----------------------------|---------------------------|--------------|
| 2.1. "Ted and Joanne ... enjoyed their company." | Love | Space | Linking | Sentimental
Social | Love
Togetherness | Affect |
| 2.2. "Ted shared.... we're still close." | Love | Space | Linking | Social | Togetherness | Affect |
| 3.14. "Oh, they're really Status interested...The whole family helped..." | Service | Space | Linking
(recognizing) | Sentimental
Professional | Acceptance
Recognition | Affect |
| 3.15. "We've got our close friends...always stay close." | Love | Space | Linking | Sentimental | Love | Affect |
| 3.16. "A friend takes time to develop... they'll come to visit us." | Love | Time
Space | Clucking
Linking | Sentimental | Love | Affect |
| 3.32. "...pounded staples in and marked boards...Ted ...really appreciated..." | Service | Space | Bounding
Linking | Social | Togetherness | Affect |

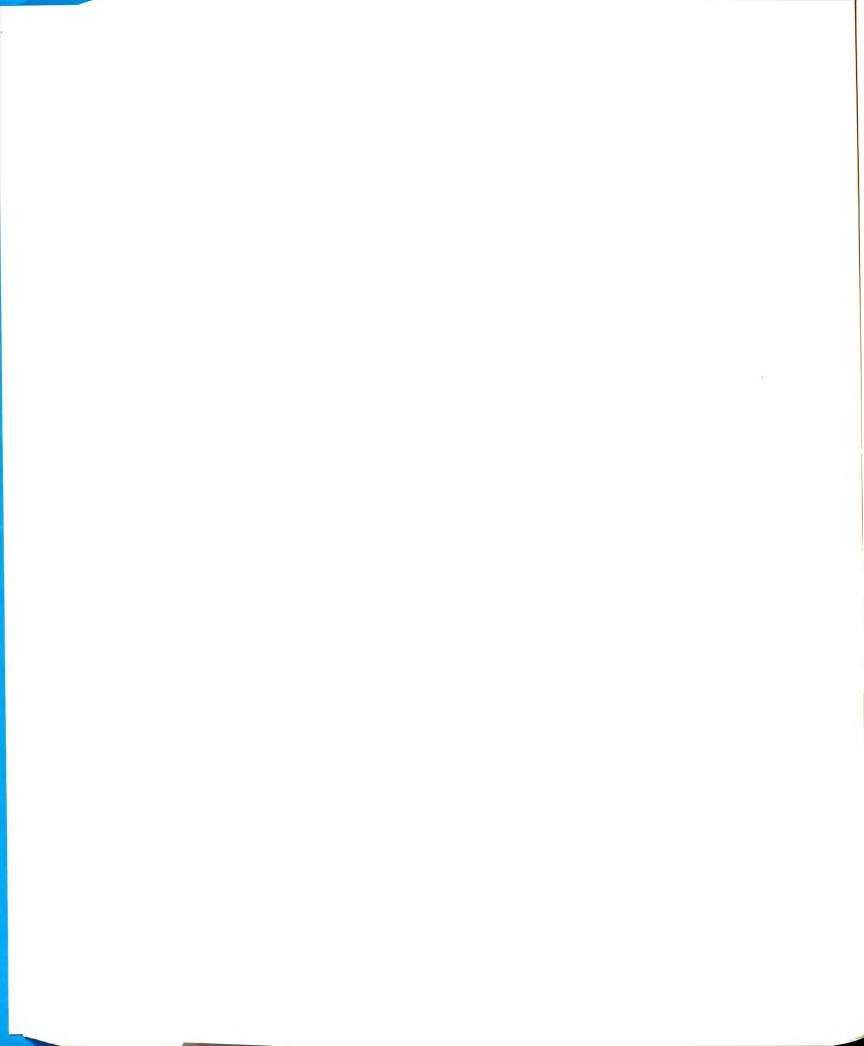


Table 4. (cont'd)

Self-actualization Needs

| STATEMENTS | RESOURCES | RESOURCE CHANNELS | ACCESS MECHANISMS | VALUES DOMAINS | VALUES BENEFITS | TARGET GOALS |
|--|--------------------------------------|-------------------|------------------------------|---------------------|----------------------|------------------------|
| 2.11. "He was up on everything...self educated man." | Status Information | Energy | Fueling (storing) | Intellectual | Intelligence | Meaning |
| 2.12. "Well formal education...I'm more than satisfied ...new ideas and new things." | Information | Energy | Fueling | Intellectual | Competence | Meaning Power (skills) |
| 2.13. "I'm learning a lot... by doing things." | Information | Energy | Fueling (tapping) (charging) | Intellectual | Competence | Meaning Power (skills) |
| 3.2. "But to me ... working in the barn...therapy for me." | Services | Energy | Fueling | Spiritual | Peace of Mind | Meaning |
| 3.4. "My values... looking at the row of pines...sets the tone." | Goods (Nature's) Services (Nature's) | Energy | Fueling | Spiritual Aesthetic | Peace of mind Beauty | Meaning |
| 3.5. "I like to work on stuff myself...see how things fit together..." | Information | Energy | Fueling | Intellectual | Competence | Meaning |

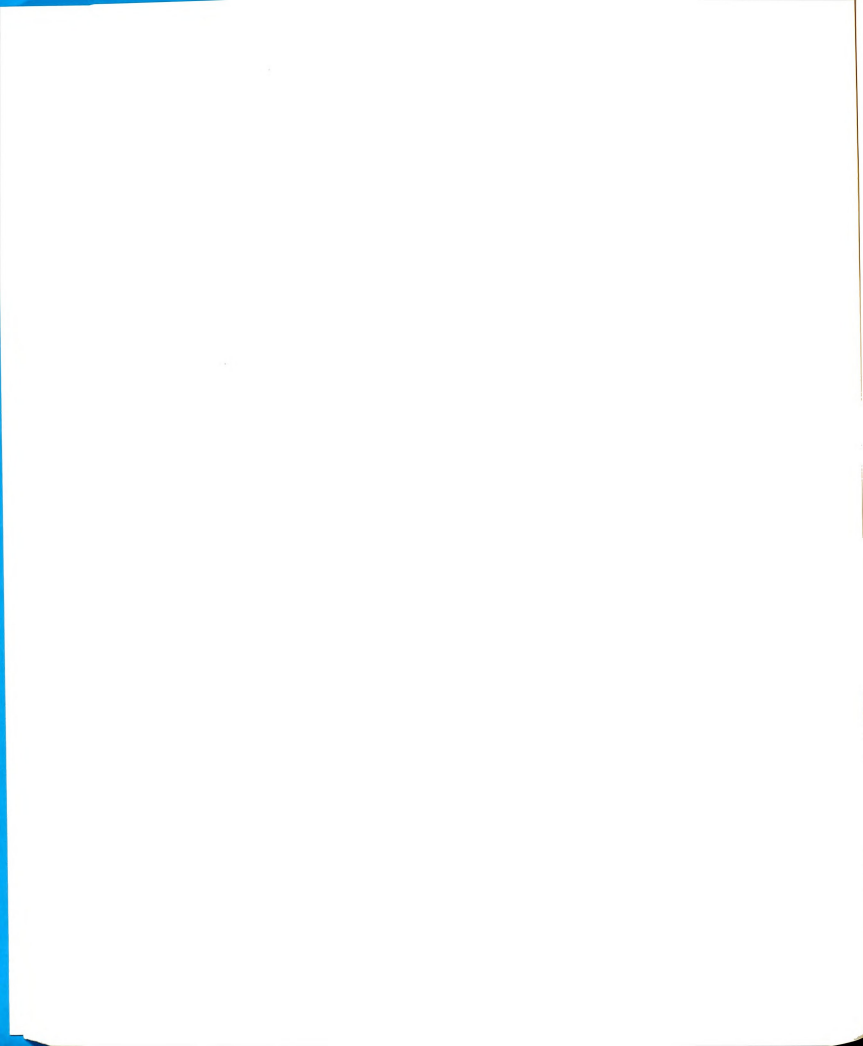


Table 4. (cont'd)

Self-actualization Needs

| STATEMENTS | RESOURCES | RESOURCE CHANNELS | ACCESS MECHANISMS | VALUES DOMAINS | VALUES BENEFITS | TARGET GOALS |
|--|--------------------------|-------------------|-------------------|------------------------|--------------------------------|------------------------|
| 3.10. "I want this project as a means ...the end..." | Information Service | Energy | Fueling Investing | Spiritual | Peace of Mind | Meaning |
| 3.17. "I continually read...outside is my religion." | Information | Energy Time | Fueling Orienting | Intellectual Spiritual | Clear Conscience Peace of Mind | Meaning |
| 3.41. "...all the learning we've done...hay field ...hard work... very enjoyable... for yourself...learned a lot this year." | Information Goods Status | Energy | Investing | Intellectual | Competence | Meaning Power (skills) |

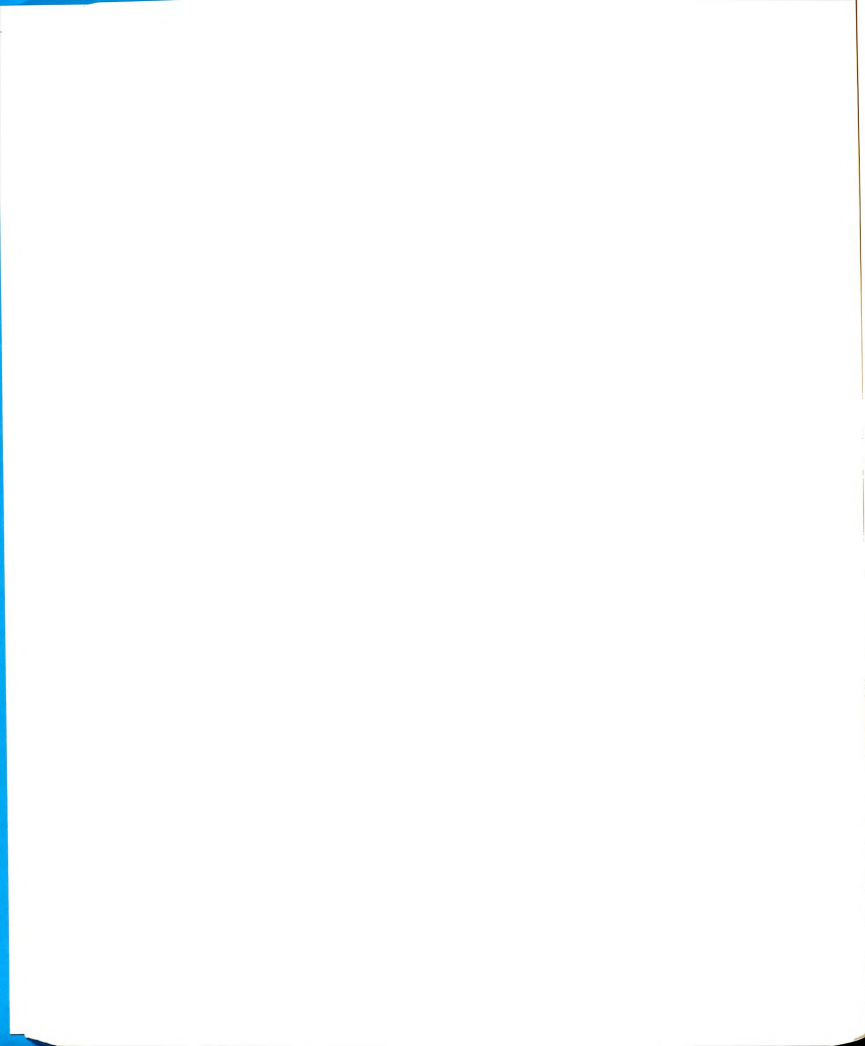


Table 4. (cont'd)

Psycho-social->Self-actualization Needs

| STATEMENTS | RESOURCES | RESOURCE CHANNELS | ACCESS MECHANISMS | VALUES DOMAINS | VALUES BENEFITS | TARGET GOALS |
|---|-------------------------------|-------------------------|---|---|---|--|
| 2.3. "Ted felt... a nice guy." | Status | Space
Time | Centering
Orienting | Social
Moral/Political | Courtesy
Honesty
Justice
Fairness | Affect
Meaning |
| 2.4. "She felt open minded and accepting... valued open mindedness Ted had." | Status
Love
Information | Space | Linking | Sentimental
Intellectual | Acceptance
Intelligence | Affect
Meaning |
| 2.5. "He admired his mother's ... fairness... with us." | Status | Time
Space | Orienting
Centering
(guidelines for behavior) | Social
Moral/Political | Love
Fairness | Affect
Meaning |
| 2.6. "I really pat my parents on the back ...4-H...music...church ...develop our natural talents...leader." | Information
Love
Status | Energy
Space
Time | Fueling
Linking
Orienting | Intellectual
Sentimental
Professional | Intelligence
Competence
Love
Recognition | Meaning
Affect
Power
(skills) |
| 2.7. "Same here ... lessons and everything else." | Information
Love
Status | Energy
Space
Time | Fueling
Linking
Orienting | Intellectual
Sentimental
Professional | Intelligence
Competence
Love
Recognition | Meaning
Affect
Power
(skills) |
| 2.8. "Whatever you did... that was fine." | Love
Status | Space
Time | Linking
Orienting | Sentimental
Intellectual | Acceptance
Love
Competence | Affect
Meaning |

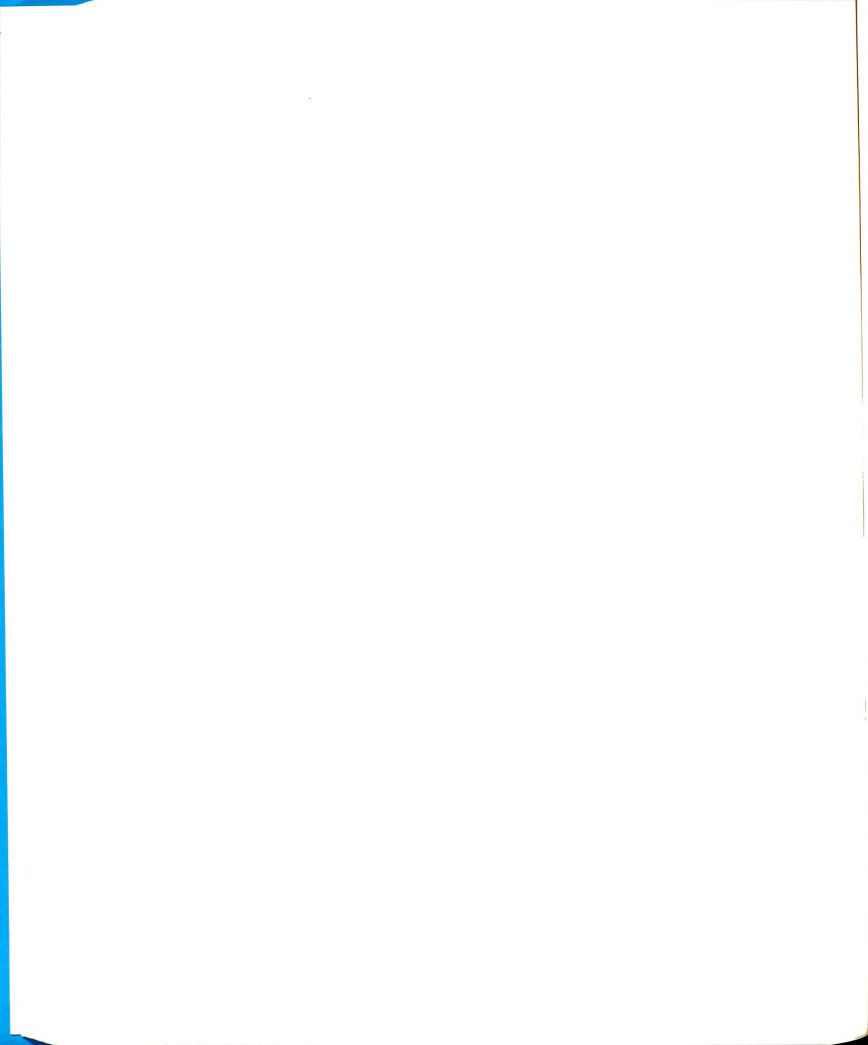


Table 4. (cont'd)

Psycho-social->Self-actualization Needs

| STATEMENTS | RESOURCES | RESOURCE CHANNELS | ACCESS MECHANISMS | VALUES DOMAINS | VALUES BENEFITS | TARGET GOALS |
|--|-----------------------------------|-------------------|------------------------------------|------------------------------------|---------------------------------------|-------------------|
| 2.9. "He would tell story... I'd laugh and smile." | Love
Status | Energy
Time | Fueling
Orienting | Sentimental
Spiritual | Love
Peace of Mind | Affect
Meaning |
| 2.10. "We lived in a city... Grandpa's where I got my love for farming." | Love | Energy
Time | Fueling
Orienting | Sentimental
Social
Spiritual | Love
Neighborhood
Peace of Mind | Affect
Meaning |
| 2.14. "He was just a person I idolized ... always special to me." | Love
Status | Energy
Time | Fueling
Orienting | Sentimental
Intellectual | Love
Intelligence
Competence | Affect
Meaning |
| 2.15. "The one thing ... Grandpa's hands ... work hard... an ethic, you know." | Love | Time
Energy | Orienting
Fueling | Sentimental | Love | Affect
Meaning |
| 3.6. "I really enjoy... working for us, for the project... feel good." | Services
Status | Energy | Fueling | Professional
Spiritual | Recognition
Peace of mind | Affect
Meaning |
| 3.7. "What I'd really like to see... what we do... information ...people benefit from it." | Services
Information
Status | Energy
Time | Investing
Orienting
(future) | Intellectual
Professional | Competence
Success
Recognition | Affect
Meaning |

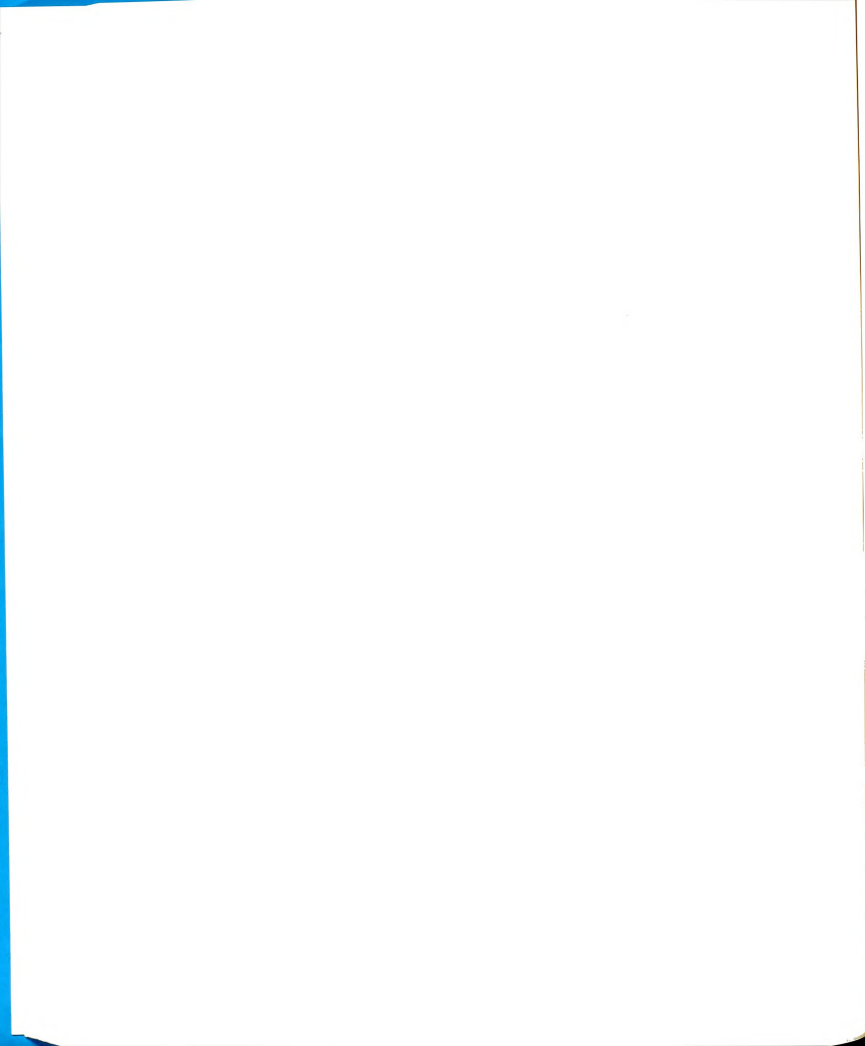


Table 4. (cont'd)

Psycho-social->Self-actualization Needs

| STATEMENTS | RESOURCES | RESOURCE CHANNELS | ACCESS MECHANISMS | VALUES DOMAINS | VALUES BENEFITS | TARGET GOALS |
|---|-----------------------------|-------------------|---|-------------------------------------|---|----------------------|
| 3.8. "There's more protein in turnips...be a key...hope my efforts will mean something...help a lot of people." | Services Information Status | Energy | Investing Fueling | Intellectual Professional Social | Competence Success Recognition Togetherness (connectedness) | Affect Meaning |
| 3.9. "...to help other people...revolution coming in agriculture ...be a part of it." | Services Status | Energy Space | Fueling Investing Linking | Moral/Political Social Professional | Freedom Togetherness Recognition | Affect Meaning |
| 3.13. "I've met people who work on farms ...energies here... community coming to us...gratifying too." | Information Status | Energy Space | Fueling Linking | Intellectual Professional | Competence Recognition Success | Meaning Power Affect |
| 3.40. "I'm really pleased...we've achieved this many goals...remember... last fall." | Status | Time Energy | <div style="border: 1px solid black; border-radius: 50%; padding: 5px; display: inline-block;"> Orienting (Past) </div> | Intellectual Professional | Competence Success Recognition | Meaning Affect |

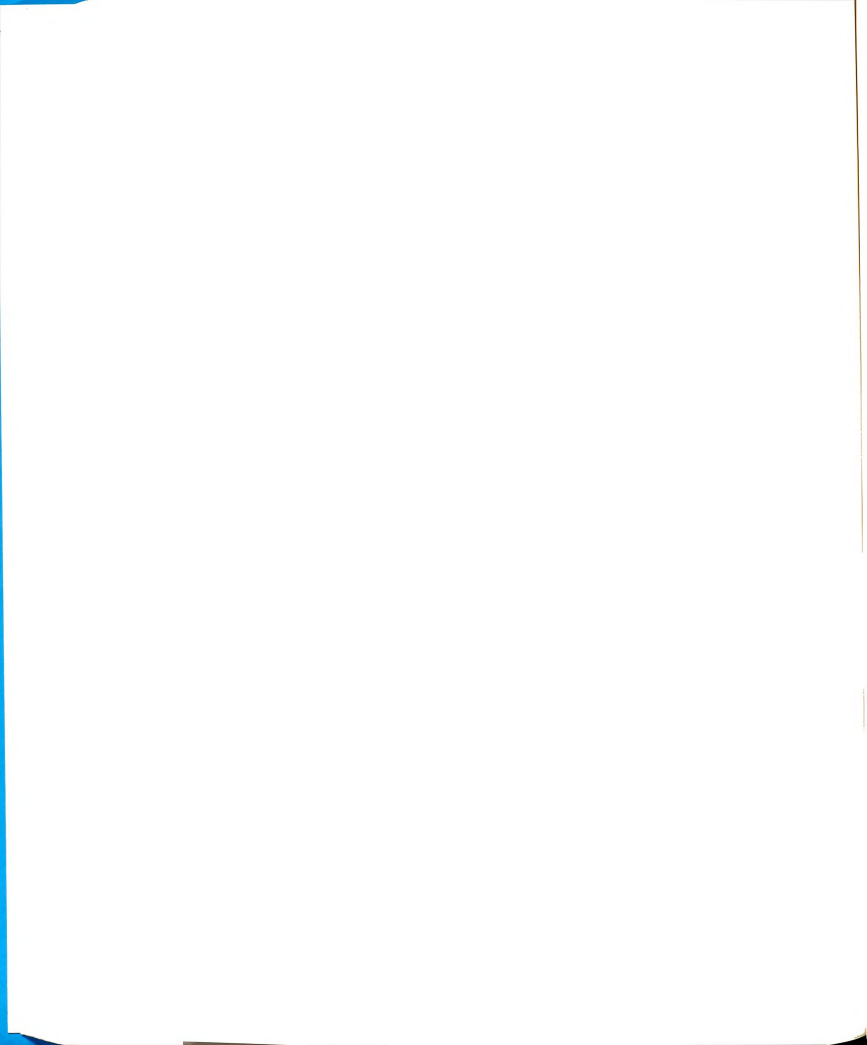


Table 4. (cont'd)

Physical/Security<->Self-actualization Needs

| STATEMENTS | RESOURCES | RESOURCE CHANNELS | ACCESS MECHANISMS | VALUES DOMAINS | VALUES BENEFITS | TARGET GOALS |
|--|---|-------------------|----------------------------------|--|---|------------------------------|
| 1.3. *Alternatives for increased income... home business... using own talents... could be established.* | Money
Service | Energy | Investing
Mobilizing | Physical/Material
Economic
Intellectual | Economic Security
Productiveness
Competence | Power
Meaning |
| 3.3. *As far as values go... home grown foods...doing things for ourselves...knowing...sustainable skills... self-satisfaction... country living... nature...* | Goods
Status
Information | Energy
Space | Fueling
Investing
Bounding | Physical/Material
Spiritual
Aesthetic | Health
Productiveness
Peace of Mind
Beauty | Power
Meaning |
| 3.37. *Chemical treatment costs several thousand dollars... second cutting...at the right time...really good hay...no insecticides... comfortable with that.* | Goods
Status
Information | Time
Space | Clocking
Bounding | Economic
Physical/Material
Intellectual
Spiritual
Professional | Productiveness
Economic Security
Competence
Peace of Mind
Success | Power
Meaning |
| 3.39. "...satisfied with equipment able to... keep everything in shape...find an elevator...buy one.* | Goods
Money
Status
Information | Time
Energy | Clocking
Fueling | Economic
Intellectual | Economic Security
Competence | Power
(skills)
Meaning |

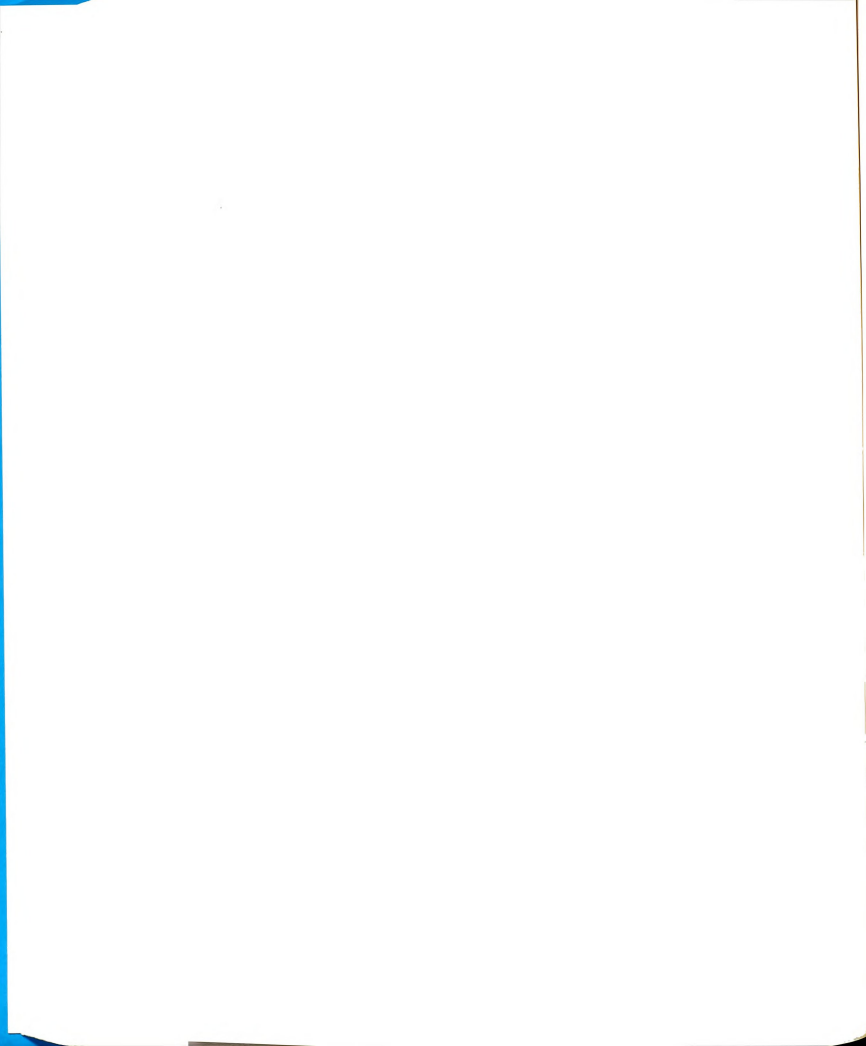


Table 4. (cont'd)

Physical/Security->Psycho-social Needs

| STATEMENTS | RESOURCES | RESOURCE CHANNELS | ACCESS MECHANISMS | VALUES DOMAINS | VALUES BENEFITS | TARGET GOALS |
|--|--|-------------------|---------------------------|---|--|----------------------------|
| 3.29. "They are interested...expose students to us... good deal for both ...in good with your neighbors...pigs for a good price." | Money
Services
Information
Status | Space | Bounding | Economic
Social
Sentimental
Professional | Economic Security
Productiveness
Neighborhoodness
Acceptance
Recognition | Power
Affect |
| 3.30. "...it would have been risky to purchase old stuff from a stranger... don't have books ...this one I know who used it." | Information | Space | Bounding | Economic
Sentimental | Economic Security
Acceptance | Power
Affect |
| 3.33. "...make things believable for the project...being thrifty...we've got our sheep, chicks, pigs are coming...one step at a time." | Status
Money
Goods | Time | Synchronizing
Clocking | Economic
Professional | Productiveness
Success | Power
Affect |
| 3.35. "...easier than we thought to... like a nurse...barn set up is a big plus in our favor." | Services
Status | Time | Synchronizing | Social
Professional
Economic | Togetherness
Success
Productiveness | Affect
Power
(skill) |
| 3.38. "...really something Joanne and I...able to pay for ...equipment...hay... cash crop...we are ...pretty good." | Money
Goods
Status | Time | Synchronizing | Economic
Professional | Economic Security
Productiveness
Success | Power
(skills) |

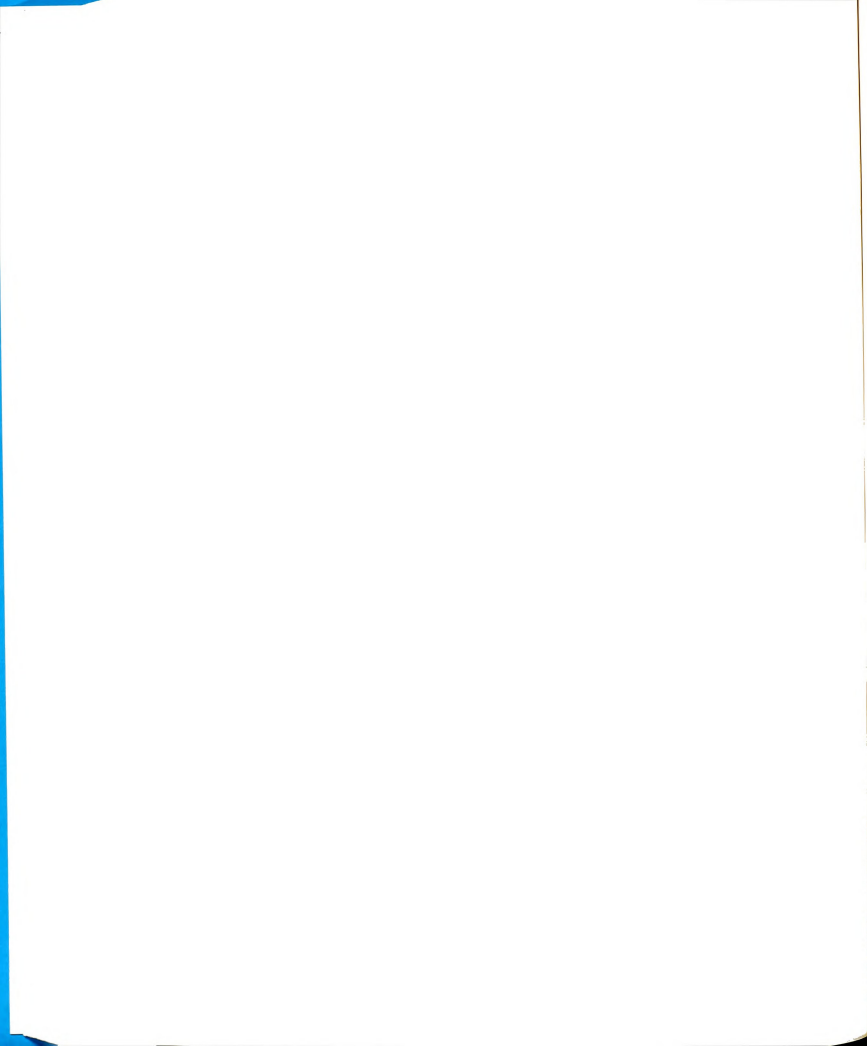


Table 4. (cont'd)

Physical/Security->Psycho-social->Self-actualization Needs

| STATEMENTS | RESOURCES | RESOURCE CHANNELS | ACCESS MECHANISMS | VALUES DOMAINS | VALUES BENEFITS | TARGET GOALS |
|--|--|-------------------------|--|--|---|----------------------------|
| 1.2. "The production techniques...socially acceptable...working networks of all farmers." | Love
Status
Goods
Information
Services | Space
Energy
Time | Linking
Investing
Synchronizing | Professional
Sentimental
Social
Moral/Political
Economic | Recognition
Acceptance
Togetherness
Courtesy
Neighborhood
Honesty
Productiveness
Justice
Fairness | Affect
Meaning
Power |
| 3.11. "I tell everybody I'm a beginner...ask people...don't need to have the best alitalia stand..." | Information
Status
Goods | Energy
Space
Time | Fueling
(surveying)
Bounding
Clocking | Physical/Material
Economic
Professional
Intellectual | Physical Security
Economic Security
Productiveness
Recognition
Success
Competence | Power
Affect
Meaning |
| 3.12. "For now...a lot of my energy...contacts...extension office...sheep people...library..." | Information | Energy
Time
Space | Fueling
Orienting
Linking | Intellectual | Competence | Meaning
Power
Affect |
| 3.24. "Biggest thing we have is resourcefulness...don't know something... know somebody who does...always learning..." | Information | Space
Time
Energy | Linking
Centering
Synchronizing
Fueling | Intellectual
Physical/Material
Professional | Competence
Physical Security
Togetherness
(connectedness)
Success | Meaning
Power
Affect |

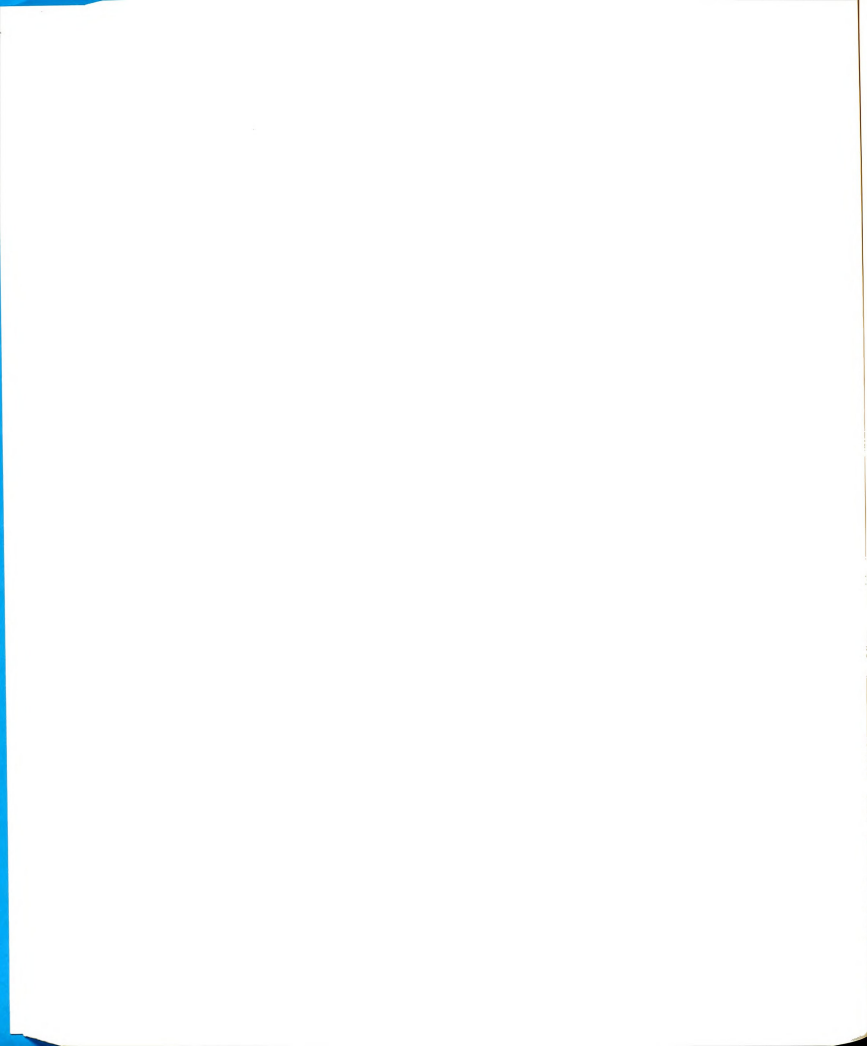
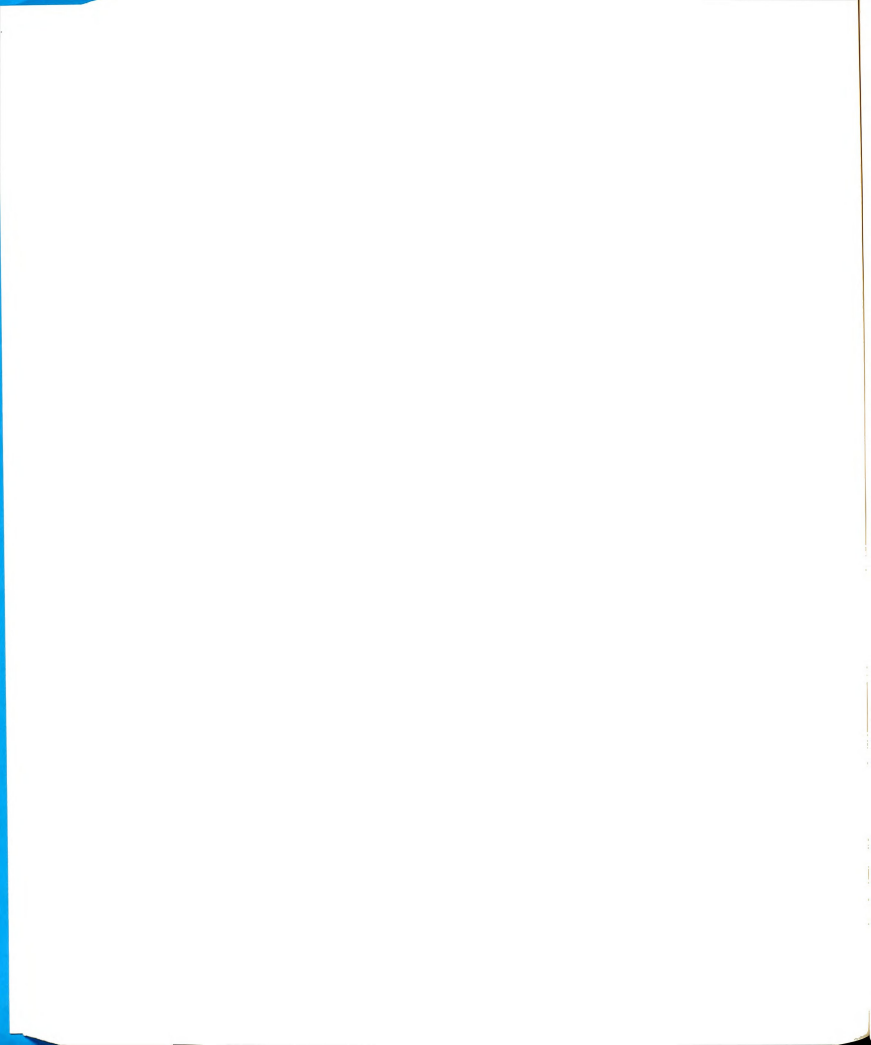


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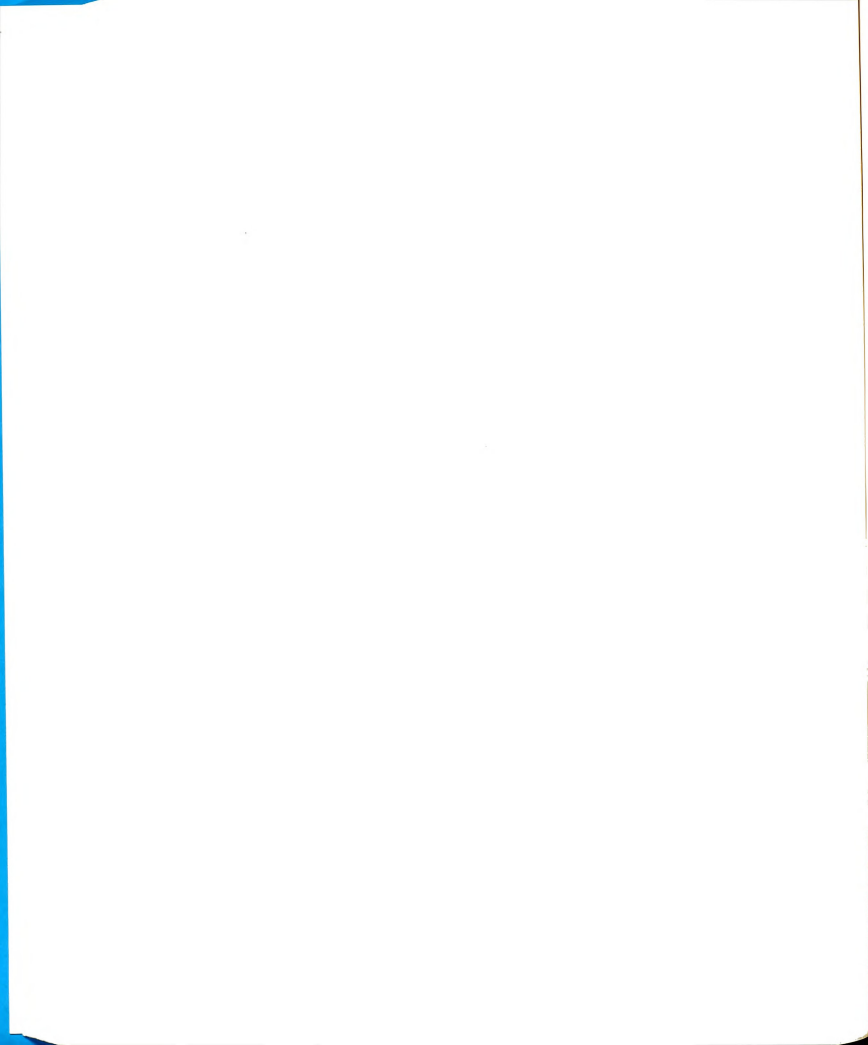
Physical/Security<->Psycho-social<->Self-actualization Needs

| STATEMENTS | RESOURCES | RESOURCE CHANNELS | ACCESS MECHANISMS | VALUES DOMAINS | VALUES BENEFITS | TARGET GOALS |
|---|---------------------------------------|-------------------------|--|--|--|----------------------------|
| 3.25. "We compromised... contacted different people...decided... we'll buy some sheep...Services started looking around Status ...good friend gave us four...we'll give him a good ram... He's really helped us out with his plow..." | Information
Love
Goods
Money | Space
Time
Energy | Bounding
Clocking
Fueling
Investing | Economic
Sentimental
Social
Professional
Intellectual
Moral/Political | Economic Security
Productiveness
Love
Togetherness
Success
Competence
Fairness | Power
Affect
Meaning |
| 3.31. "...getting done what we had to get done here and that was primary... chicks and geese... discontinue Joanne's off-farm employment." | Goods
Money
Services | Space
Time
Energy | Bounding
Synchronizing
Investing | Physical/Material
Economic
Social
Spiritual | Physical Security
Economic Security
Togetherness
Peace of Mind | Power
Affect
Meaning |



The Final Matrix of Interrelated Concepts by Needs supports the following observations regarding the interrelationships between human values and resource management processes with respect to types of needs.

Physical/Security Needs. By the end of their first year on the farm the Hardings had accomplished a great deal. Ted and Joanne had met many of their physical/security needs. When statements referring to physical/security needs were considered in isolation from other needs statements, time was the resource channel most frequently alluded to with respect to power target goals (e.g., money, goods, and skills). The primary access mechanisms used by the Hardings, and explicitly or implicitly referred to with respect to the realization of physical/material and economic values, included **synchronizing** (setting priorities) and **clocking** (regulating the sequence and pace of events), as well as **orienting** (selecting, directing, or maintaining of attitudes and behaviors toward the past, present, and future by emphasizing one or more of these realms) (Kantor and Lehr, 1975). Ted and Joanne planned to develop skills and acquire information (a future time orientation), but were present time oriented with respect to meeting their immediate need for goods and money (e.g., getting the house in order and finding jobs). There is some indication of orientation to the past as evidenced by Ted's statement concerning a comparison between his present financial status and the income generated from his former job. Ted said that he "generated a lot of income" from his former job and "spent a lot." He implied that the lifestyle change brought about by the move to the farm demanded a shift in values priorities with respect to economic security. He added, "The transition is tough."



The Final Matrix of Interrelated Concepts by Physical/Security Needs supports the following hypothesis.

HYPOTHESIS #6:

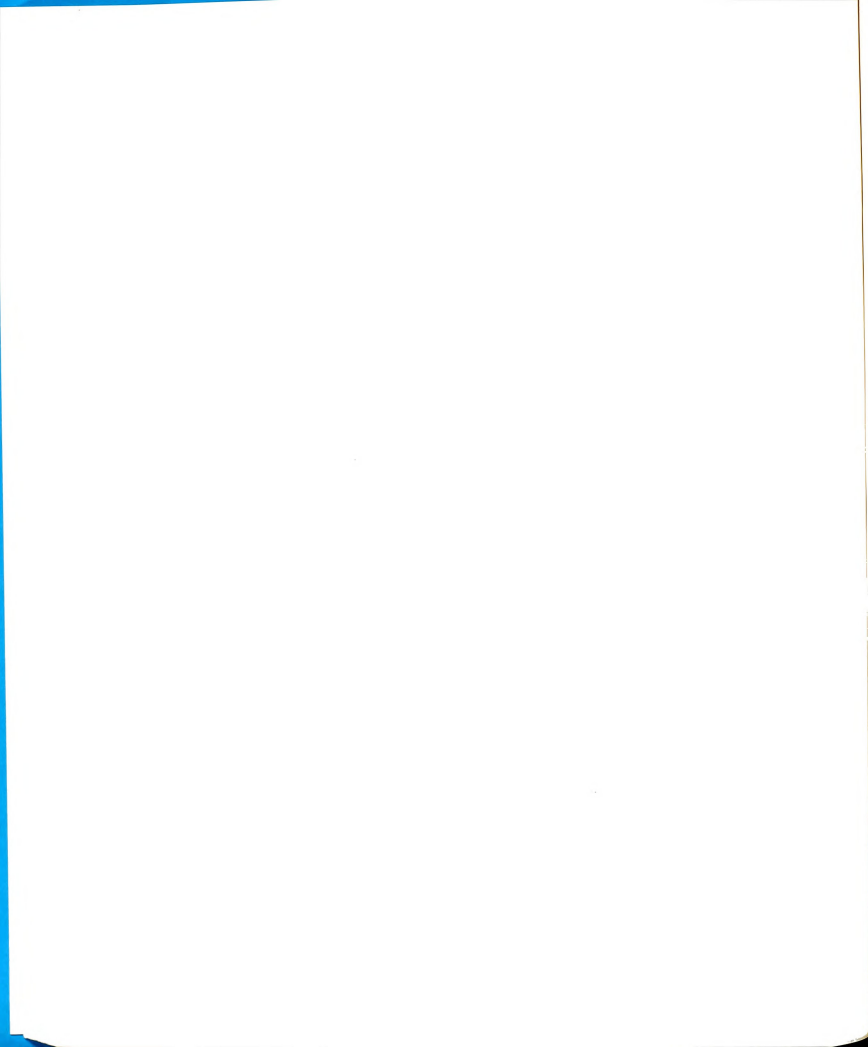
There is a strong interrelationship between physical/material, economic values; accompanying benefits (health, comfort, physical security, productiveness); and time regulation (synchronizing, clocking, and orienting) with respect to the exchange or allocation of money, goods, and information resources.

With respect to the type of rationality used in decision making concerning the realization of physical/material and economic values examination of interview data led to the following hypothesis.

HYPOTHESIS #7:

Technical and economic rationality is essential to realization of physical/material and economic values but not always sufficient. When the environmental supply of money, goods, and information is insufficient to meet physical/security needs, integrative social rationality is necessary to generate new channels and sources for supplying these resources. When sentimental, social, professional, intellectual, moral, or aesthetic values are primary, integrative social rationality is also essential.

Psycho-social Needs. When statements concerning psycho-social needs are considered in isolation from other needs statements, space is the resource channel most frequently alluded to, with linking as the primary access mechanism. Love as a particularistic resource is seen as interrelated with the sentimental value, love as a values benefit. This observation is consistent with resource exchange theory. According to



Foa and Foa (1971), when we give a particularistic resource, such as love, we also give to ourselves. We experience a growth in the resource. On the Hardings' ecomap, Ted's and Joanne's parents and siblings are identified as important support systems (based on placement of ecomap symbols close to the Hardings' central family symbol). Love is the resource exchange noted between Ted and Joanne and these strong extended family supports.

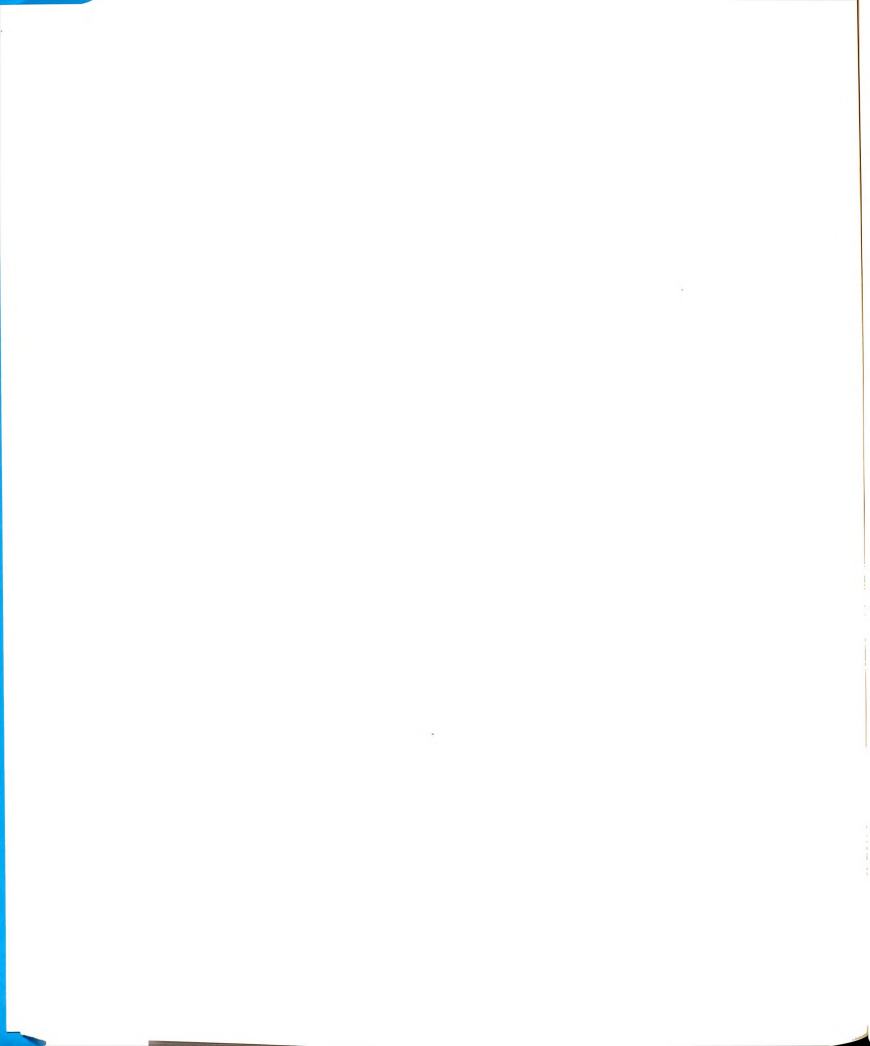
On several occasions the Hardings also alluded to giving or receiving status and service in resource exchanges involving their parents and siblings. As expressed in the Hardings' statements, these resources are seen as interrelated with social and professional values and accompanying values benefits togetherness and recognition.

Time was also alluded to, especially with respect to developing friendships outside the family. The Hardings remarked, "A friend takes time to develop." This is consistent with the assertion of Foa and Foa (1974) who say that sufficient time is essential for the development of particularistic relationships and exchange of particularistic resources such as love and status.

The Final Matrix of Interrelated Concepts by Psycho-social Needs supports the following hypothesis.

Hypothesis #8:

There is a strong interrelationship between sentimental, social, professional values; accompanying benefits (love, acceptance, togetherness, recognition); and space regulation (linking) with respect to the exchange of noneconomic resources (love, status, and services). The development of particularistic relationships



and resources requires time regulation as well.

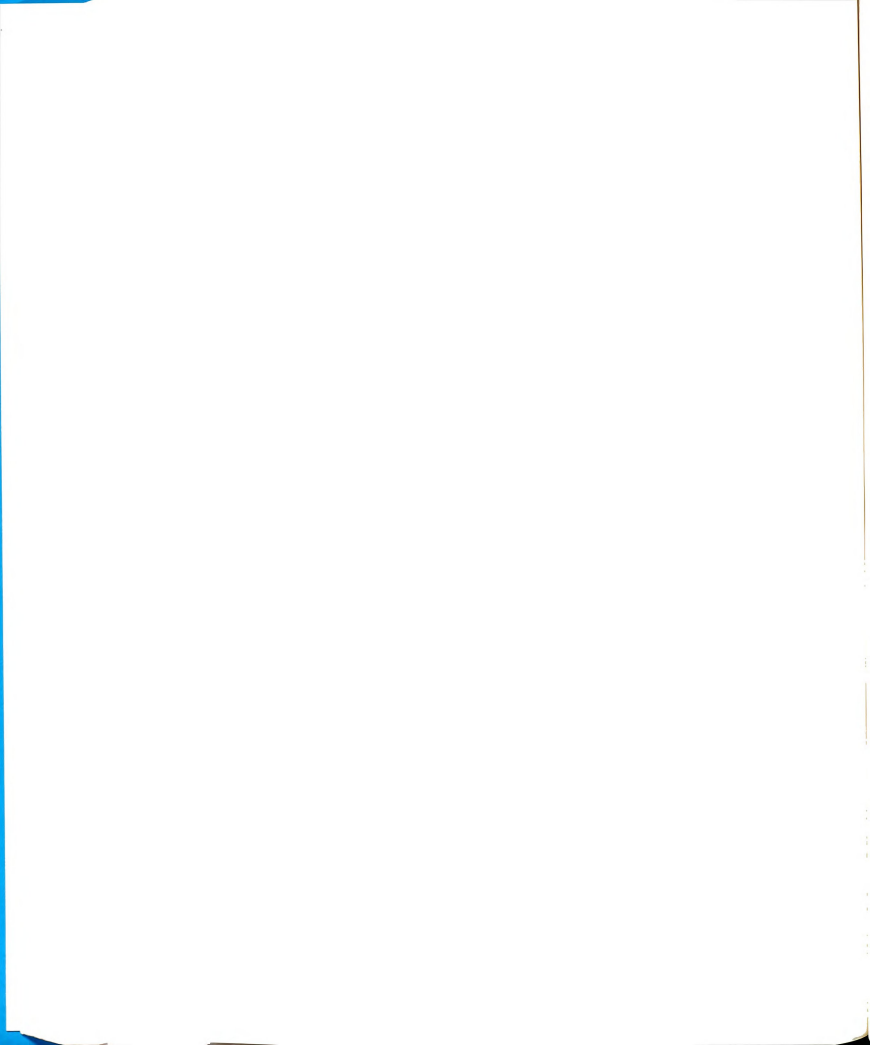
Self-actualization Needs. All of the Hardings' statements identified in reference to self-actualization needs, considered in isolation from other needs statements, alluded to **energy** as a resource channel, with **fueling** as the primary access mechanism. In this context, information is seen as a predominant resource. Status given to another, as well as service, and Nature's goods (e.g., a beautiful sunset) can also be seen as interrelated with spiritual, aesthetic, and intellectual values. Values benefits intimated include intelligence, competence, peace of mind, beauty, and a clear conscience.

The Final Matrix of Interrelated Concepts by Self-actualization Needs supports the following hypothesis.

HYPOTHESIS #9:

There is a strong interrelationship between intellectual, spiritual, and aesthetic values; accompanying benefits (intelligence, competence, peace of mind, appreciation of beauty) and energy regulation [fueling (storing, tapping, charging)] with respect to management of noneconomic resources [information (obtained by doing), status given to another, services for a cause in which one believes, and Nature's goods].

Psycho-social->Self-actualization Needs. The interface between psycho-social->self-actualization needs was most apparent in the Hardings' discussion of the genogram. The types of values implied in the Hardings' statements with respect to family history and background included: 1) social (courtesy, neighborliness, togetherness); 2) sentimental (acceptance, love); 3) moral/political (honesty, fairness,



justice); 4) intellectual (intelligence and competence); and 5) spiritual (peace of mind). The resources alluded to were love, status, and information. Interrelated resource channels and mechanisms identified were space (centering and linking), time (orienting), and energy (fueling). Many of the Hardings' statements expressed feelings about meanings and identity. It appeared to be very important to both Ted and Joanne that their parents and siblings affirm and validate their choice of the small scale farm lifestyle. It was intimated that their family experiences and loyalty to underlying family values had brought them to their present choice of the farm lifestyle.

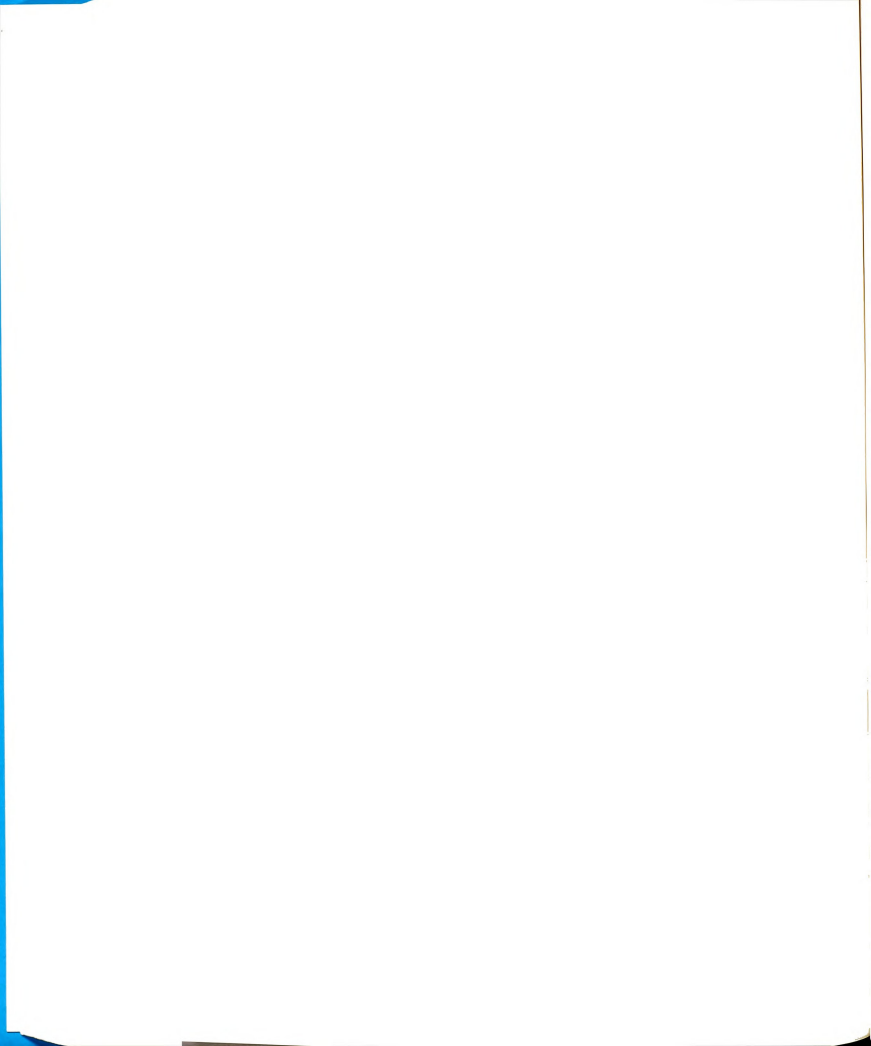
The above observations are consistent with family process theory. As suggested by Kantor and Lehr (1975),

"Through its regulation of this interface (affect-meaning), a family determines which of the lifestyle meanings it will accept and the degree of acceptance. . . . At this important interface the family expresses its feelings about its meanings and identity" (pp. 53-54).

According to Kantor and Lehr,

. . . effective loving can be used to affirm and validate oneself and ones meanings. . . . Not all loving leads to meaning affirmation and validation . . . here the heart and the head meet and tug with one another. . . . If an individual with a high propensity for meaning autonomy grows up in a family with a high push for intimacy, he may find that only some and not all of his lifestyle meanings are affirmed by the family (pp. 53-54).

Ted's description of the tug his mother felt when he and Joanne first suggested a move to the research farm, and the pleasure he expressed with respect to his family's support, provide an illustration of how the meaning dimension regulations functioned in his family for the eventual affirmation and validation of family members; in this case, Ted and



Joanne with respect to their choice of the small scale farm lifestyle.

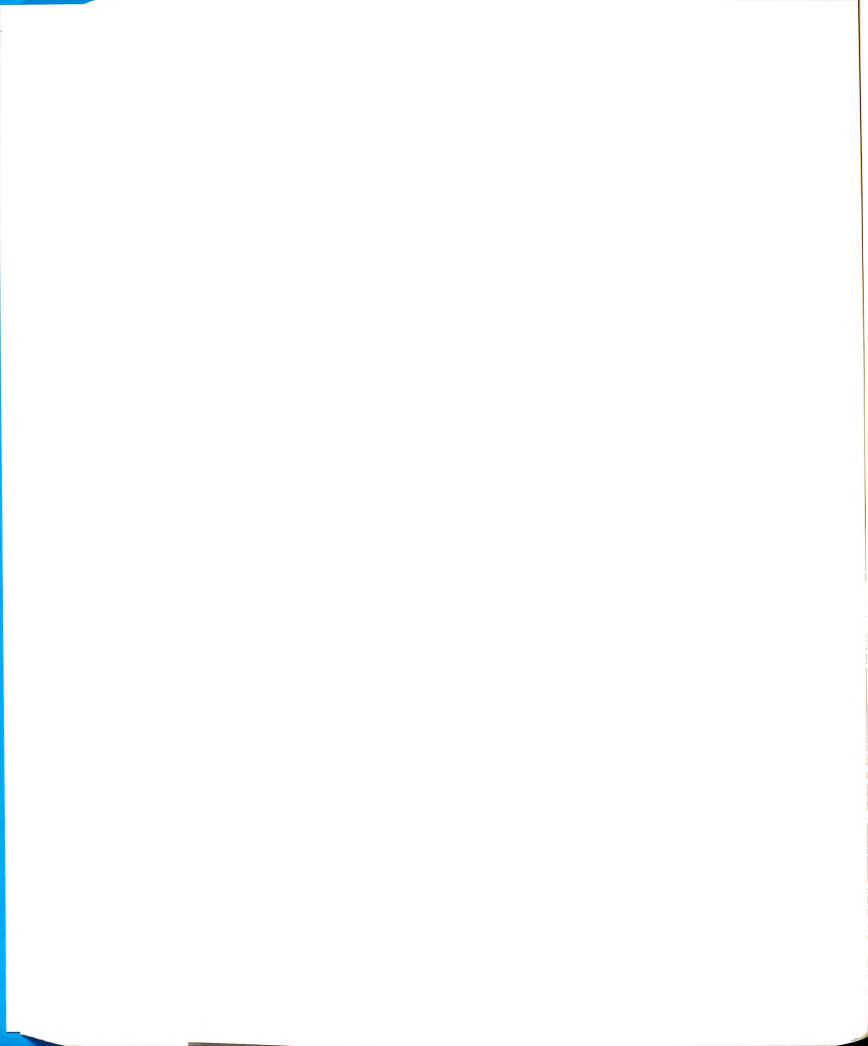
Statements alluding to psycho-social<->self-actualization needs in the description of life on the farm have a slightly different orientation. The Hardings' statements with respect to their present life on the farm suggest that at the affect-meaning interface services as well as information and status are significant resources with regard to the realization of values (e.g., professional [recognition and success], intellectual [competence], spiritual [peace of mind], social [togetherness [connectedness] and moral/political [freedom]). The resource channels and mechanisms suggested are primarily energy [investing, fueling (tapping, charging)], but also space (linking) and time (orienting to the past and future).

The Final Matrix of Interrelated Concepts by Psycho-social<-> Self-actualization Needs supports the following hypothesis.

HYPOTHESIS #10:

At the psycho-social<->self-actualization needs interface, there is a strong interrelationship between regulation of energy (fueling, investing), time (orienting to the past, present, or future), and space (linking) mechanisms; management of noneconomic resources (love, status, services, information); and values benefits [i.e., love, peace of mind, neighborliness, intelligence, competence, recognition, success, togetherness (connectedness), and freedom].

Physical/Security<->Self-actualization Needs. Power-Meaning target goals are apparent in statements identified as referring to both physical/security and self-actualization. For example, the Hardings

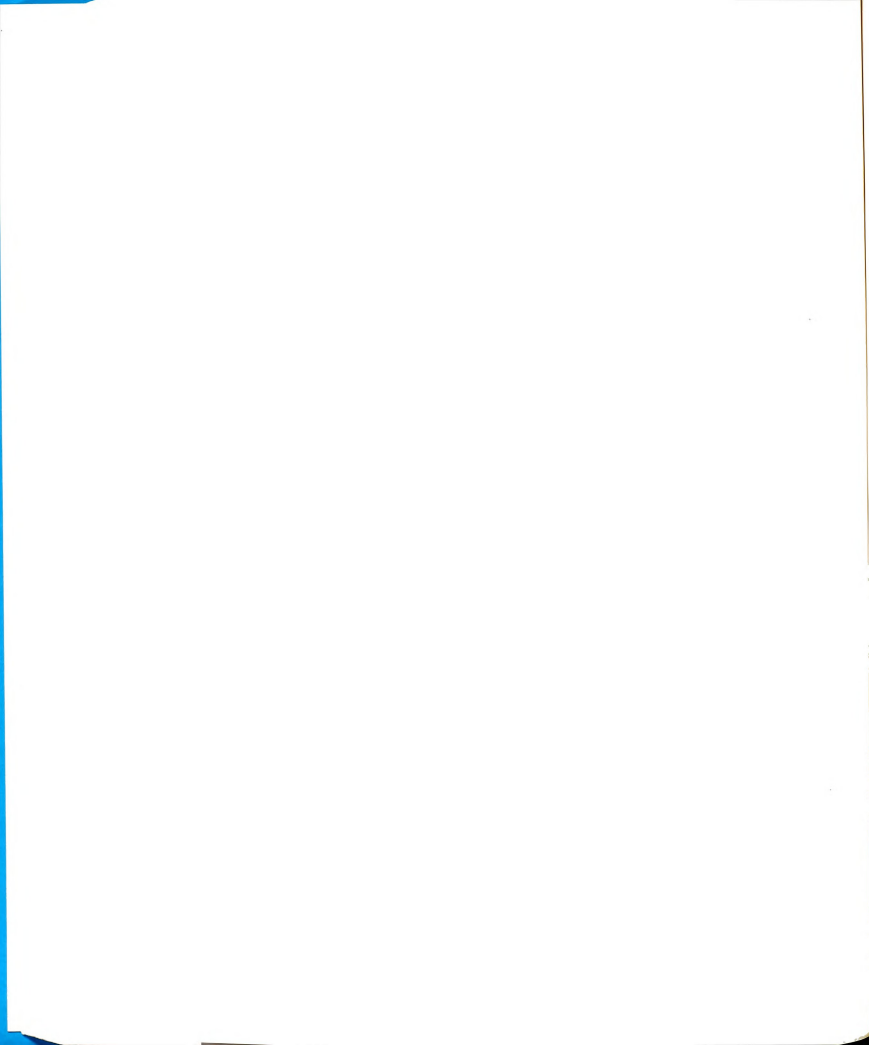


stated in their proposal that a home-based business using their own talents, small engine repair and quilting, could be an alternative source of income. On another occasion Ted reported that he was pleased with his ability to maintain his standards and ideals with respect to chemical treatment of the hay crop. Instead of using insecticides as many other farmers were doing to protect their hayfield from an infestation of weevils, Ted took a different approach which resulted in a substantial economic savings. Ted felt comfortable with his decision, competent, and successful. In the above statements the Hardings expressed interest in economic security as well as self-actualization. They intended to realize physical/material, economic, intellectual, professional, and spiritual values (peace of mind) through investing their energy, regulating their time, and establishing appropriate boundaries. Resource management of money, goods, status, service, and information is associated with the interface between physical/security <->self-actualization needs.

The Final Matrix of Interrelated Concepts supports the following hypothesis.

HYPOTHESIS #11:

At the interface between physical security<->self-actualization needs there is a strong interrelationship between regulation of energy (fueling, investing, mobilizing), time (clocking), and space (bounding) mechanisms; management of noneconomic and economic resources (information, status, services, goods, money); and values benefits (i.e., economic security, productiveness,



competence, success, health, and peace of mind).

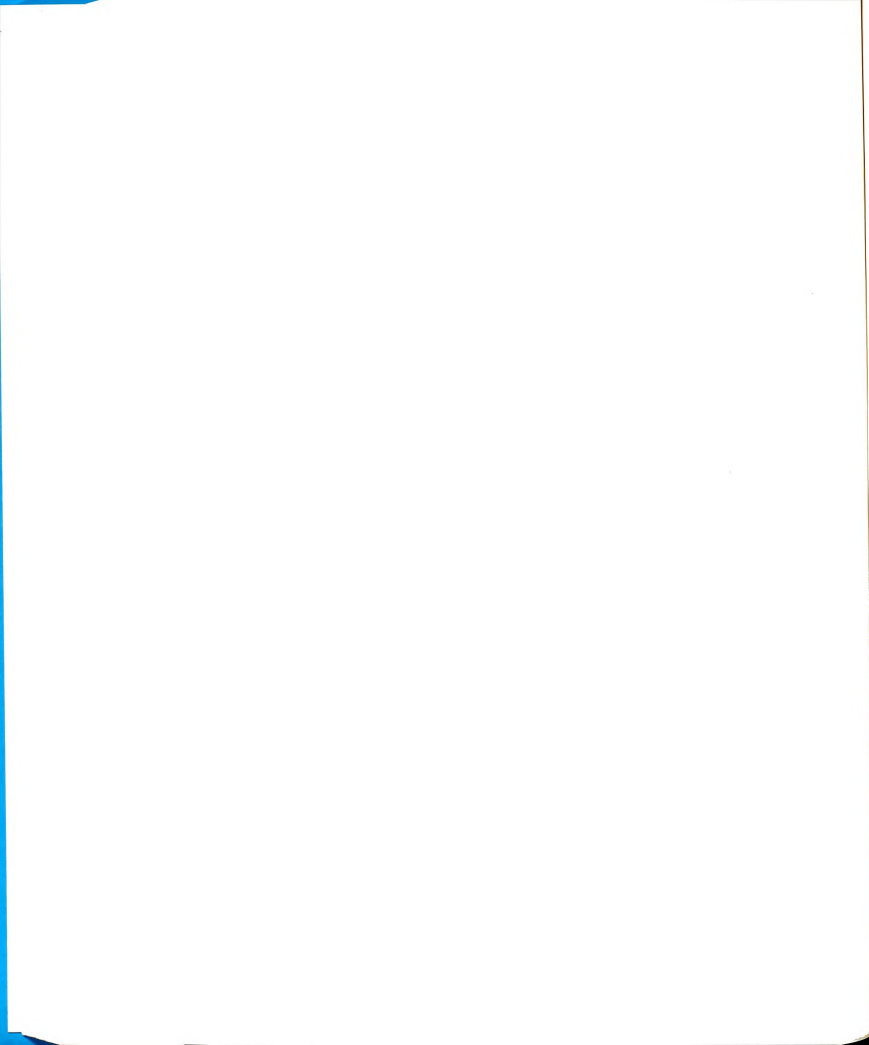
Physical/Security<->Psycho-social Needs. An integration of power-affect target goals was evidenced in the Hardings' transactions with neighbors (e.g., the Farm Learning Center), friends, farm implement dealers, and each other to meet physical/security<->psycho-social needs for all parties involved in the exchange. Through these transactions, which required integrative social rationality, the Hardings realized economic and professional values (economic security, productiveness, recognition, and success) as well as sentimental and social values (acceptance, neighborliness, and togetherness). The primary resource channels and access mechanisms alluded to in the Hardings' statements about these transactions were space (bounding) and time (synchronizing and clocking). Resources inferred as germane to these transactions were status, money, goods, information, and services.

According to Kantor and Lehr (1975), "Through its regulation of affect-power interactions, a family works out its members sense of belonging and place" (p. 53). The Hardings' regulation of this interface played a significant role in their adaptation to their new community and their feeling of being at home in their new environment.

The Final Matrix of Interrelated Concepts by Physical/Security <-> Psycho-social Needs supports the following hypothesis.

HYPOTHESIS #12:

At the physical/security<->psycho-social needs interface there is a strong interrelationship between regulation of space (bounding) and time (synchronizing, clocking) mechanisms; management of noneconomic and economic resources



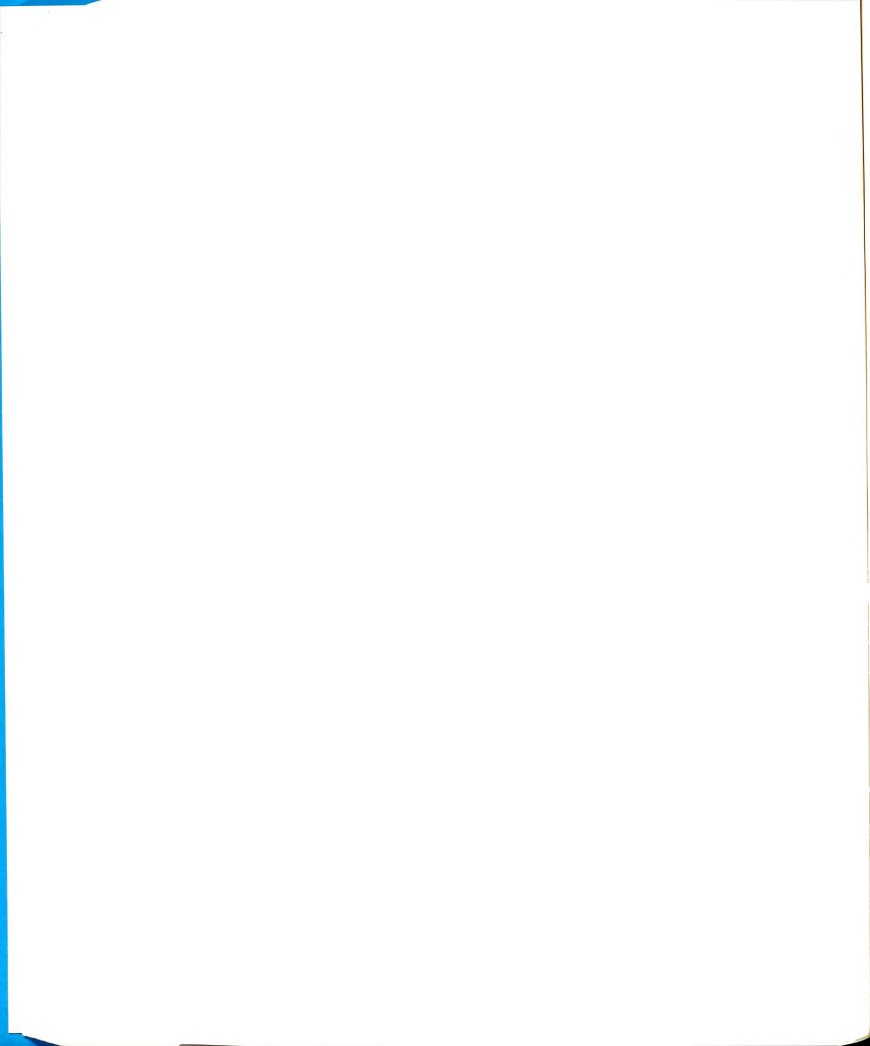
(information, status, services, money, goods); and values benefits (i.e., economic security, productiveness, neighborliness, acceptance, recognition, togetherness, and success).

Physical/Security<->Psycho-social<->Self-actualization Needs.

When all types of needs interface, resources that come into play include goods, money (as a medium for the exchange of needed goods), services, status, love, and information. Many of the Hardings' statements and activities illustrate the interrelationships among and between needs, values, goals, resources, and resource management processes. Statements which alluded to multiple categories of needs also explicitly or implicitly referred to multiple categories of values, resources, resource channels, and methods of access (resource management processes). The Final Matrix of Interrelated Concepts by Physical/Security<->Psycho-social<->Self-actualization Needs supports the following hypothesis.

HYPOTHESIS #13:

At the physical/security<->psycho-social<->self-actualization needs interface there is a strong interrelationship between regulation of space (linking, centering, bounding), time (synchronizing, clocking, orienting) and energy (investing, fueling) mechanisms, management of noneconomic and economic resources (love, status, information, services, goods, money) and values benefits (i.e., acceptance, togetherness, courtesy, neighborliness, honesty, competence, fairness, peace of mind, physical security, economic security, productiveness, recognition,

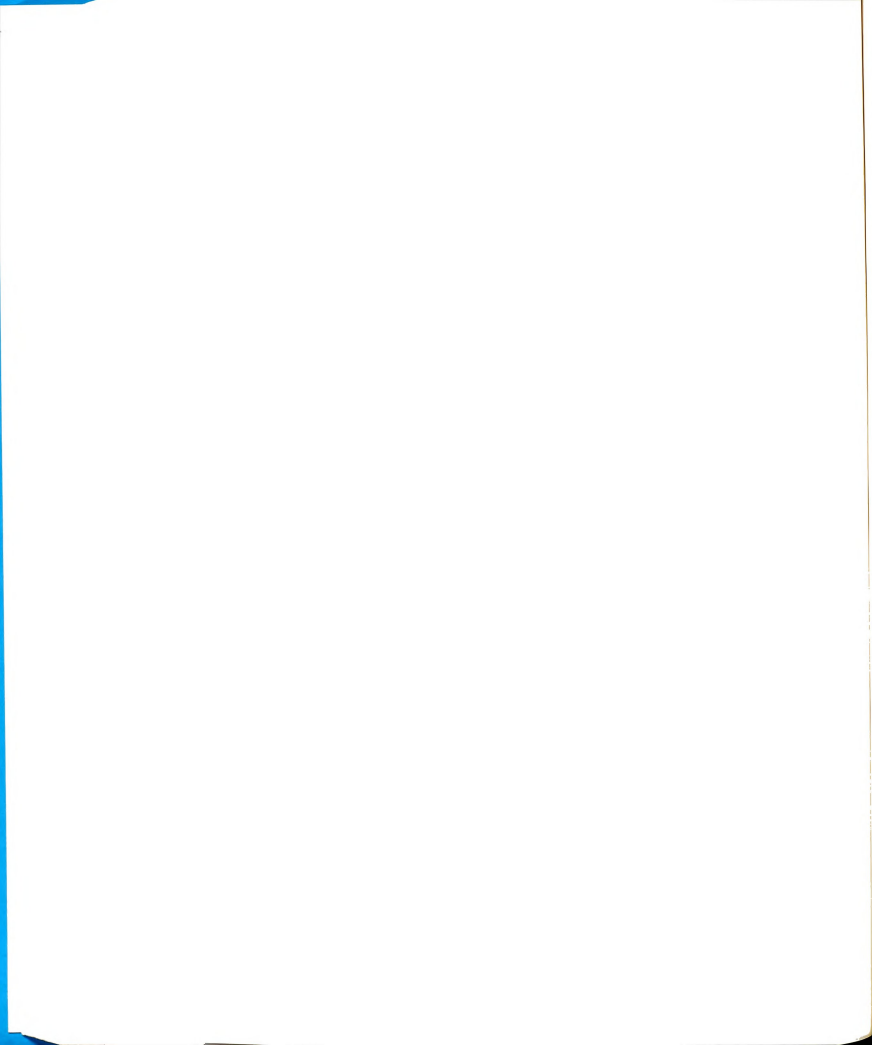


and success).

Preliminary Propositions

Hypotheses generated throughout the process of analysis are presented here as preliminary propositions which emerged from the data. As suggested by Glaser and Strauss (1967), "It must be emphasized that these hypotheses have at first the status of suggested, not tested, relations among categories and their properties though they are verified as much as possible in the course of the research (p. 39). The preliminary propositions form the core of an emerging theory. This core can become a theoretical guide to the further collection and analysis of data on the topic of values and resource management. Following is a summary of the preliminary propositions.

- 1) Perception of values benefits is interrelated with perceptions of how to use economic and noneconomic resources to access specific target goals. This was first observed in the context of the Hardings' proposal for a small scale farm operation and continued to be noted throughout much of the interview data. Proposition 1 is supported by the First Matrix of Interrelated Concepts (Table 1).
- 2) Sentimental, social, moral/political, intellectual, and spiritual values are formed in relationships with significant others, at the affect-meaning interface, through processes involving the exchange of affectionate regard, information, and status. The discussion of the genogram and heritage trunk assessment tools provided evidence for this conclusion.

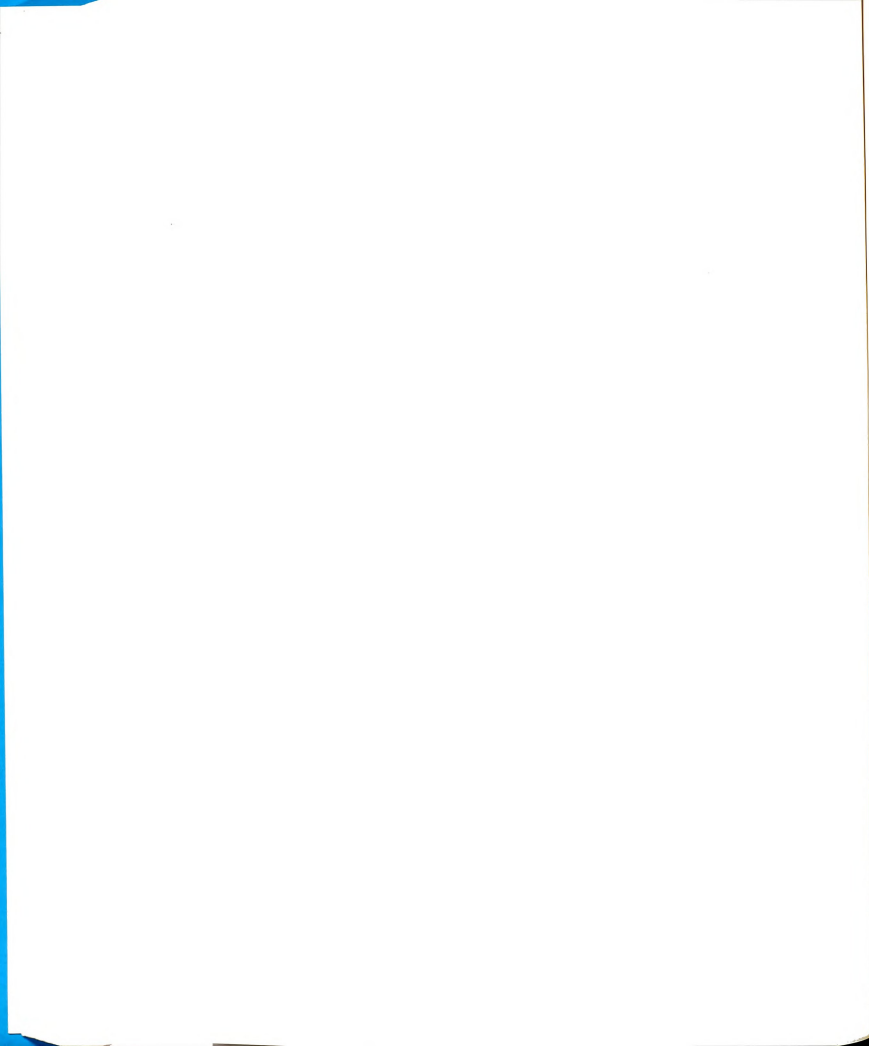


Proposition 2 is supported by the Second Matrix of Interrelated Concepts (Table 2).

3) **Power becomes the predominant target goal when physical and economic security are threatened.** During the Hardings' first months on the farm, security was threatened by the transition to a new environment. The power to acquire money, goods, and skills became the predominant and most pressing goal until Ted and Joanne found employment and acquired an ample supply of the goods needed to make their home comfortable. Proposition 3 is supported by the Third Matrix of Interrelated Concepts (Table 3).

4) **The use of economic resources (money and goods) is predominant with respect to the realization of physical/material and economic values.** The Hardings' statements during many of the interviews reflect their plans to obtain goods, in order to establish a comfortable home, and money, to purchase the equipment needed to become productive small scale farmers, growing healthful food. Proposition 4 is supported by the Third Matrix of Interrelated Concepts (Table 3).

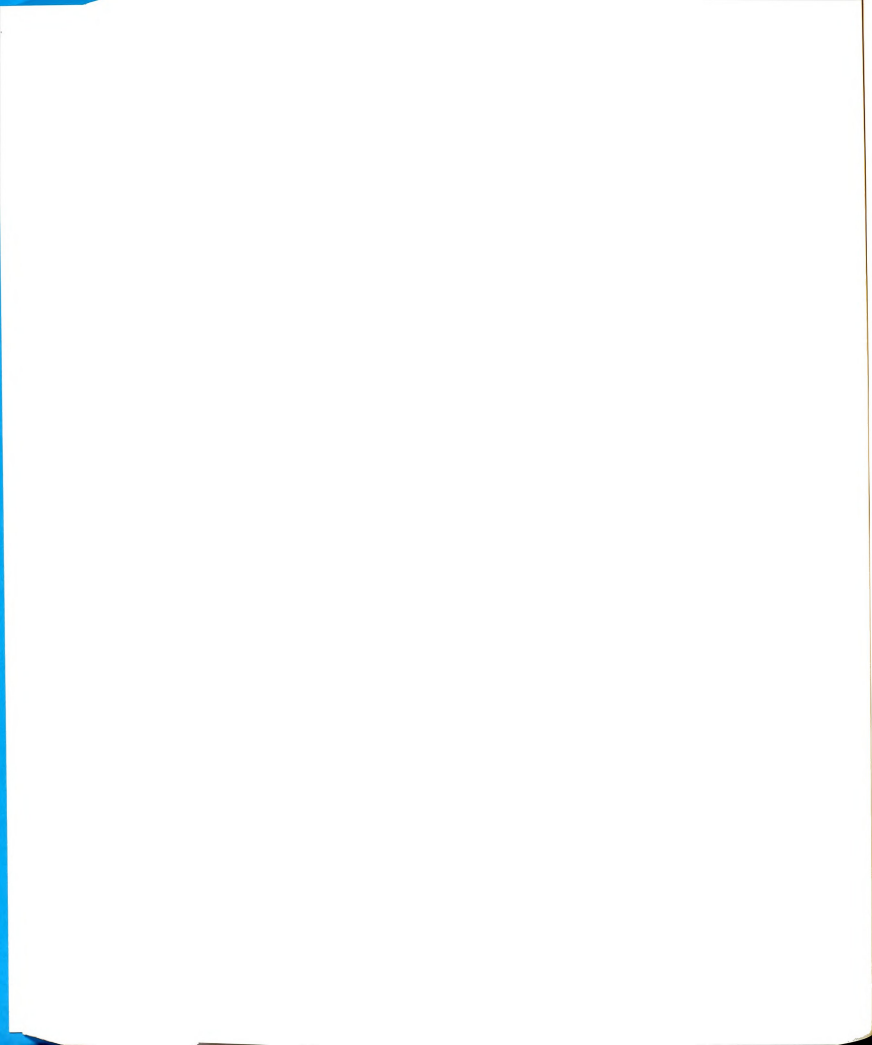
5) **The use of noneconomic resources (information, love, status, and service) is predominant with respect to the realization of sentimental, social, professional, intellectual, spiritual, moral/political, and aesthetic values.** The sample values (e.g., love, acceptance, neighborliness, togetherness, recognition, intelligence, competence, peace of mind, beauty) stemming from the values domains listed in this proposition can be seen as beneficial in terms of meeting psycho-social and



self-actualization needs. Statements made by Ted and Joanne concerning their relationship with family, friends, and neighbors, which reflected a psycho-social<->self-actualization needs interface also emphasized the acquisition or exchange of information, love, status, and service. Proposition 5 is supported by the Third Matrix of Interrelated Concepts (Table 3).

Propositions 6 through 13 are supported by the Final Matrix of Interrelated Concepts (Table 4) and have been explained in the prior section of this dissertation. They are listed below with no further explanation.

- 6) There is a strong interrelationship between physical/material, economic values; accompanying benefits (health, comfort, physical security, productiveness); and time regulation (synchronizing, clocking, and orienting) with respect to the exchange or allocation of money, goods, and information resources.
- 7) Technical and economic rationality is essential to realization of physical/material and economic values but not always sufficient. When the environmental supply of money, goods, and information is insufficient to meet physical/security needs, integrative social rationality is necessary to generate new channels and sources for supplying these resources. When sentimental, social, professional, intellectual, moral, or aesthetic values are primary, integrative social rationality is also essential.
- 8) There is a strong interrelationship between sentimental,

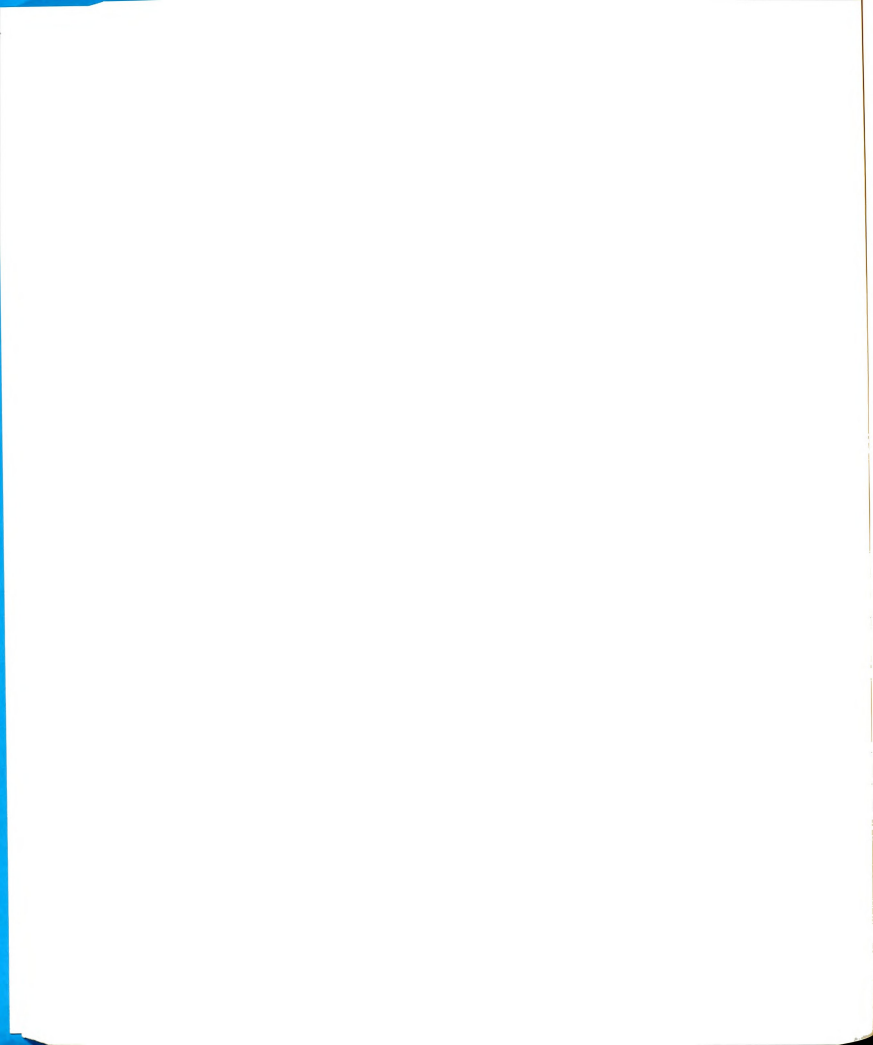


social, professional values; accompanying benefits (love, acceptance, togetherness, recognition); and space regulation (linking) with respect to the exchange of noneconomic resources (love, status, and services). The development of particularistic relationships and resources requires time regulation as well.

9) There is a strong interrelationship between intellectual, spiritual, and aesthetic values; accompanying benefits (intelligence, competence, peace of mind, appreciation of beauty); and energy regulation [fueling (storing, tapping, charging)] with respect to management of noneconomic resources [i.e., information (obtained by experience), status given to another, services for a cause in which one believes, and Nature's goods].

10) At the psycho-social<->self-actualization needs interface, there is a strong interrelationship between regulation of energy (fueling, investing), time (orienting to the past, present, and future), and space (linking) mechanisms; management of noneconomic resources (love, status, services, and information); and values benefits [i.e., love, peace of mind, neighborliness, intelligence, competence, recognition, success, togetherness (connectedness), and freedom].

11) At the interface between physical security<->self-actualization needs there is a strong interrelationship between regulation of energy (fueling, investing, mobilizing), time (clocking), and space (bounding) mechanisms; management of

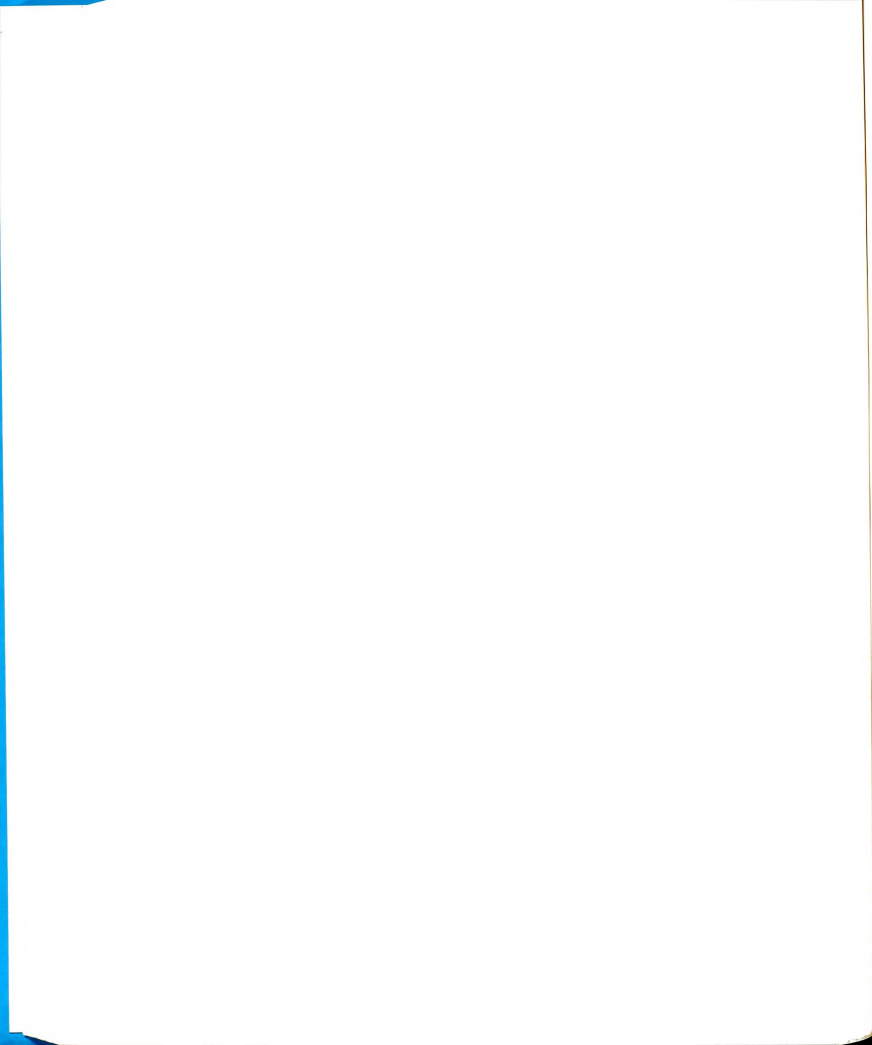


noneconomic and economic resources (information, status, services, goods, money); and values benefits (i.e., economic security, productiveness, competence, success, health, and peace of mind).

12) At the physical/security<->psycho-social needs interface there is a strong interrelationship between regulation of space (bounding) and time (synchronizing, clocking) mechanisms; management of noneconomic and economic resources (information, status, services, money, goods); and values benefits (i.e., economic security, productiveness, neighborliness, acceptance, recognition, togetherness, and success).

13) At the physical/security<->psycho-social<->self-actualization needs interface there is a strong interrelationship between regulation of space (linking, centering, bounding), time (synchronizing, clocking, orienting) and energy (investing, fueling) mechanisms; management of noneconomic and economic resources (love, status, information, services, goods, money) and values benefits (i.e., acceptance, togetherness, courtesy, neighborliness, honesty, competence, fairness, peace of mind, physical security, economic security, productiveness, recognition, and success).

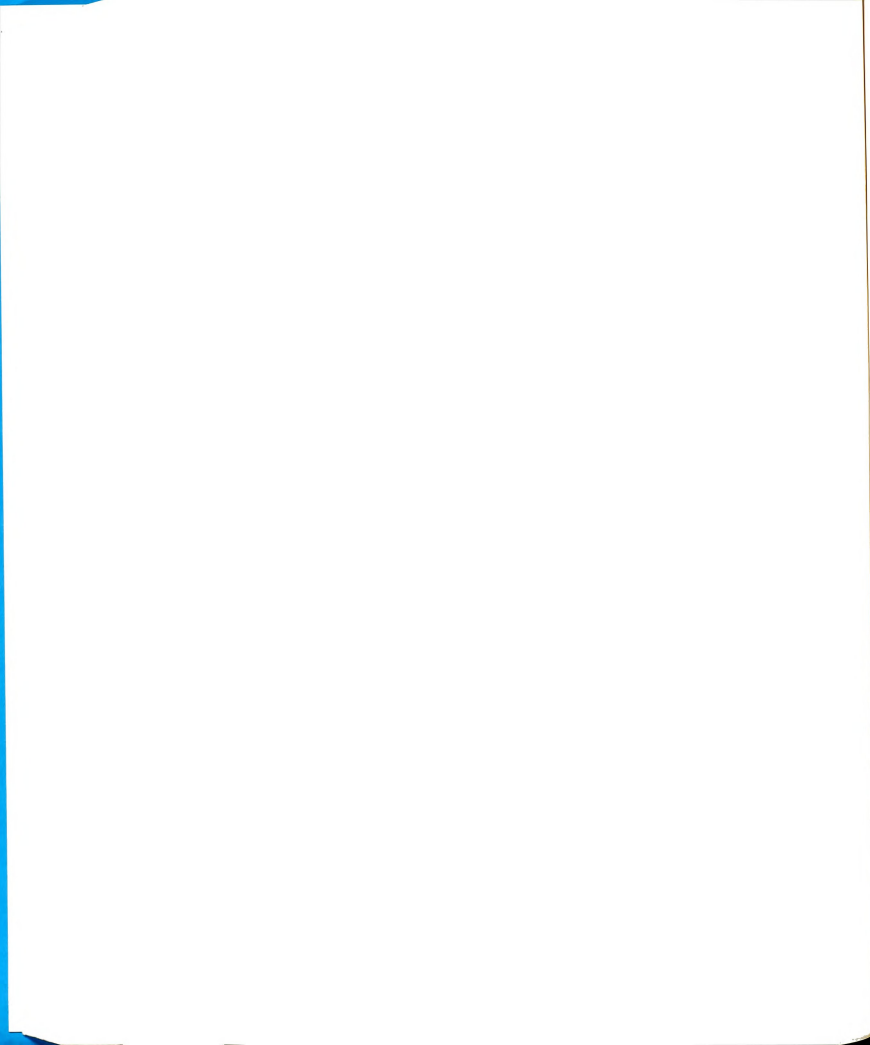
The conceptual framework and theoretical conclusions presented below are based on interpretation of the data (supported by the interrelationships observed in the matrices), expressed in the preliminary propositions stated above.



Conceptual Framework

The conceptual framework presented in Figure 2, based on propositions four through eight, illustrates the interrelationship between target goals, specific types of human values and accompanying benefits, primary resource channels and access mechanisms, and interpersonal resources relative to each values domain and target goal. The complexity of these interrelationships at the interface between and among multiple values, resources, resource channels, and access mechanisms is demonstrated in propositions nine through thirteen.

The framework presented in Figure 2 could be conceptualized as a mosaic kaleidoscope of values, resources, and management processes (Figure 3). In Figure 3, values are presented at the outer perimeter to indicate their functions in establishing boundaries of human experience. Moving inward from values, resources are presented as a means of realizing values and goals. Next to resources are the access mechanisms for attaining and using resources. Time - Space - Energy, as primary resource channels surround the center core of the primary target goals of affect, power, and meaning. A variety of patterns could be established depending upon the interface between values, available resources, and family patterns of time, space, energy regulation. In any given circumstance, the combination of values whose realization is being sought calls upon different constellations of resources, resource channels, and access mechanisms.



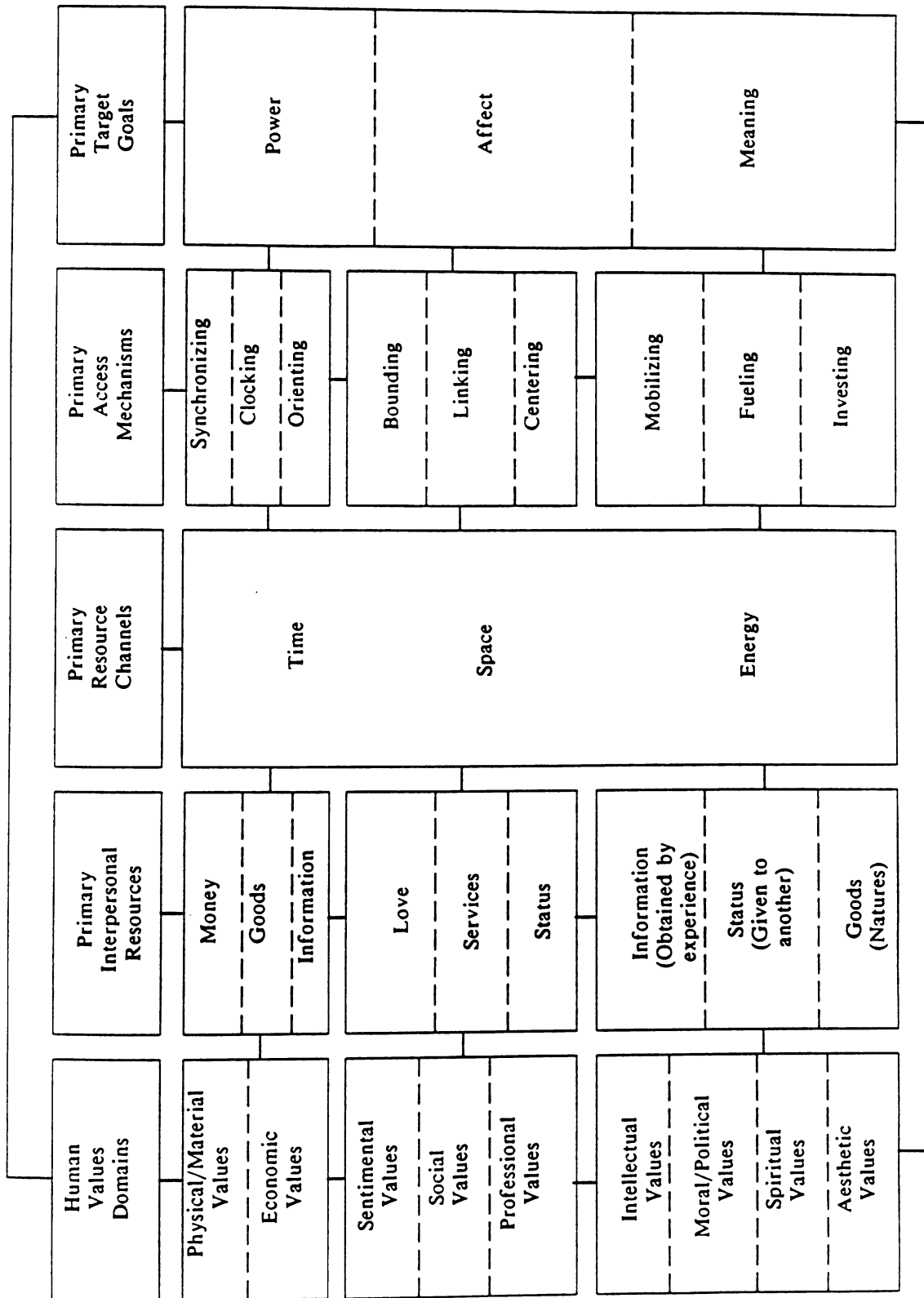
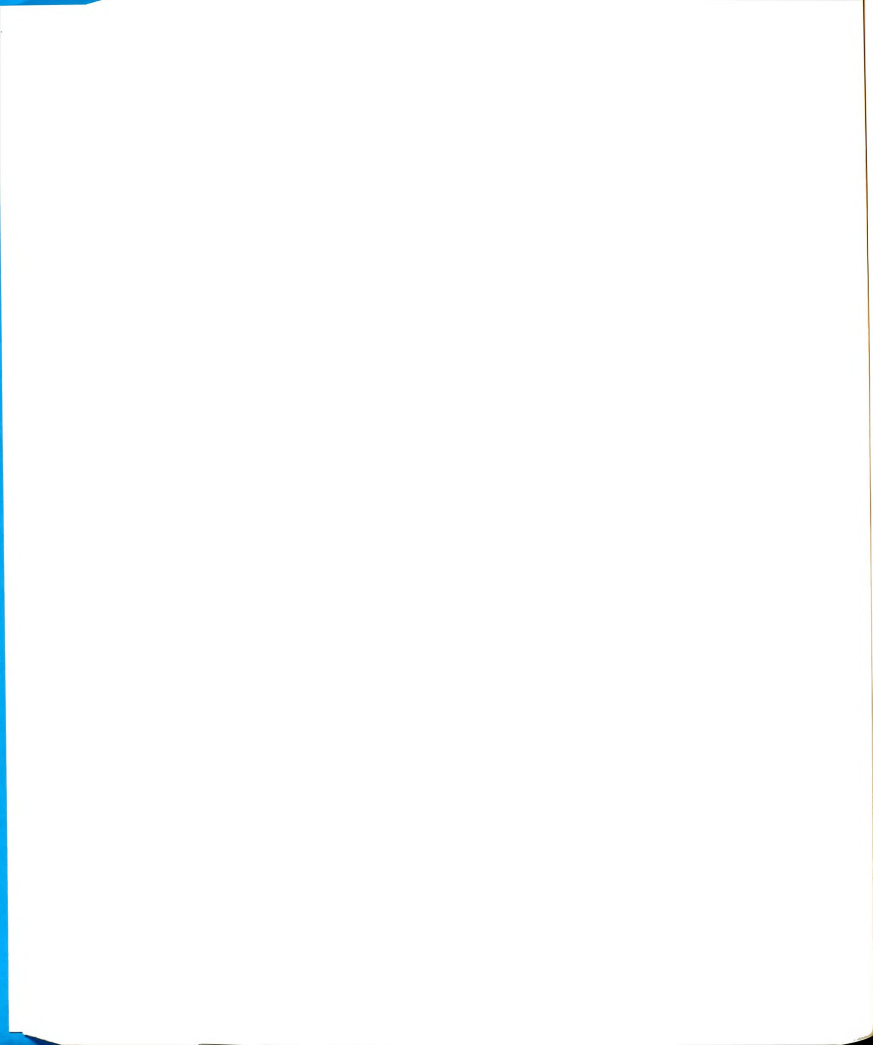


Figure 2. Framework of the Interrelationship between Human Values and Resource Management



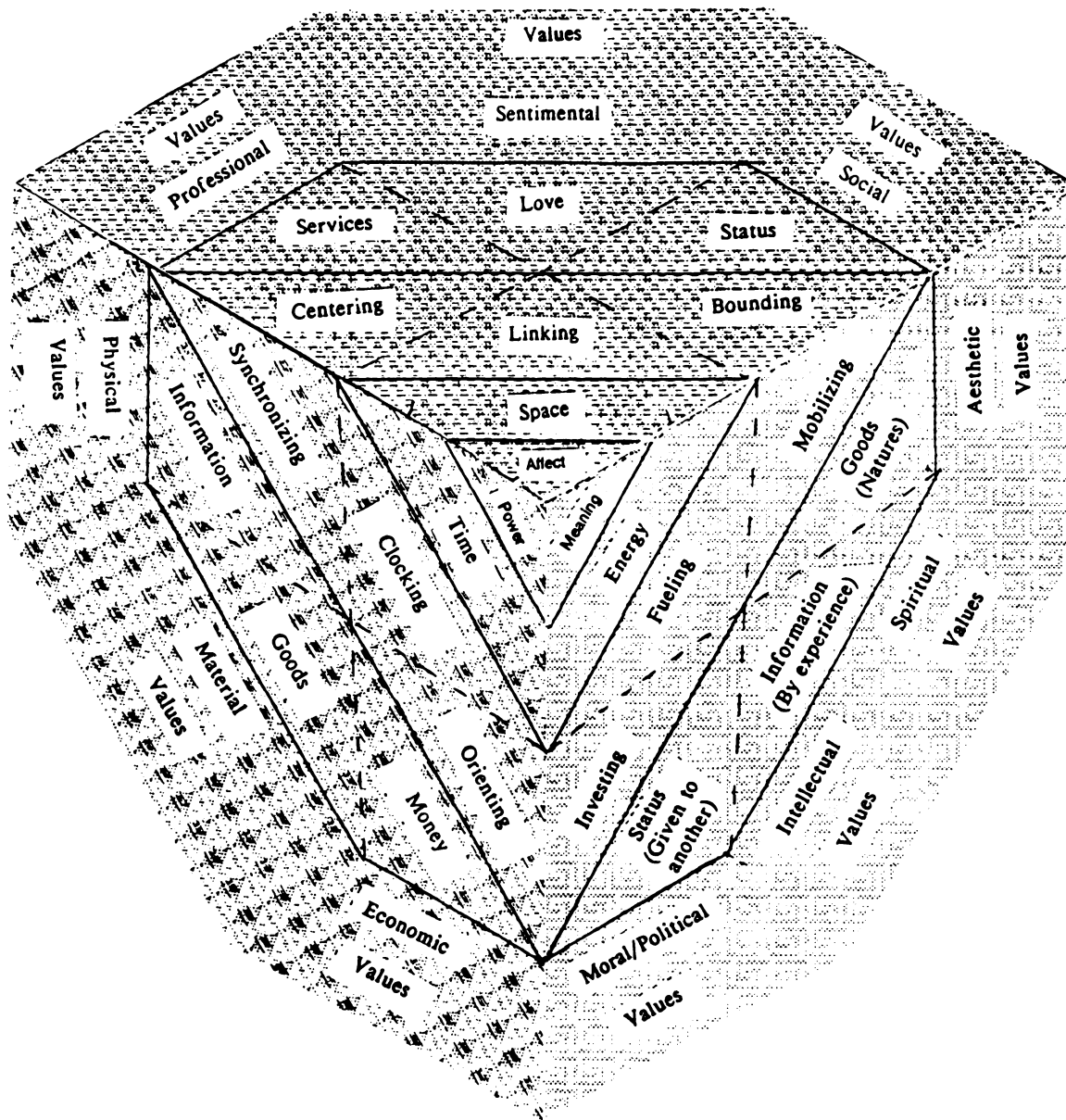
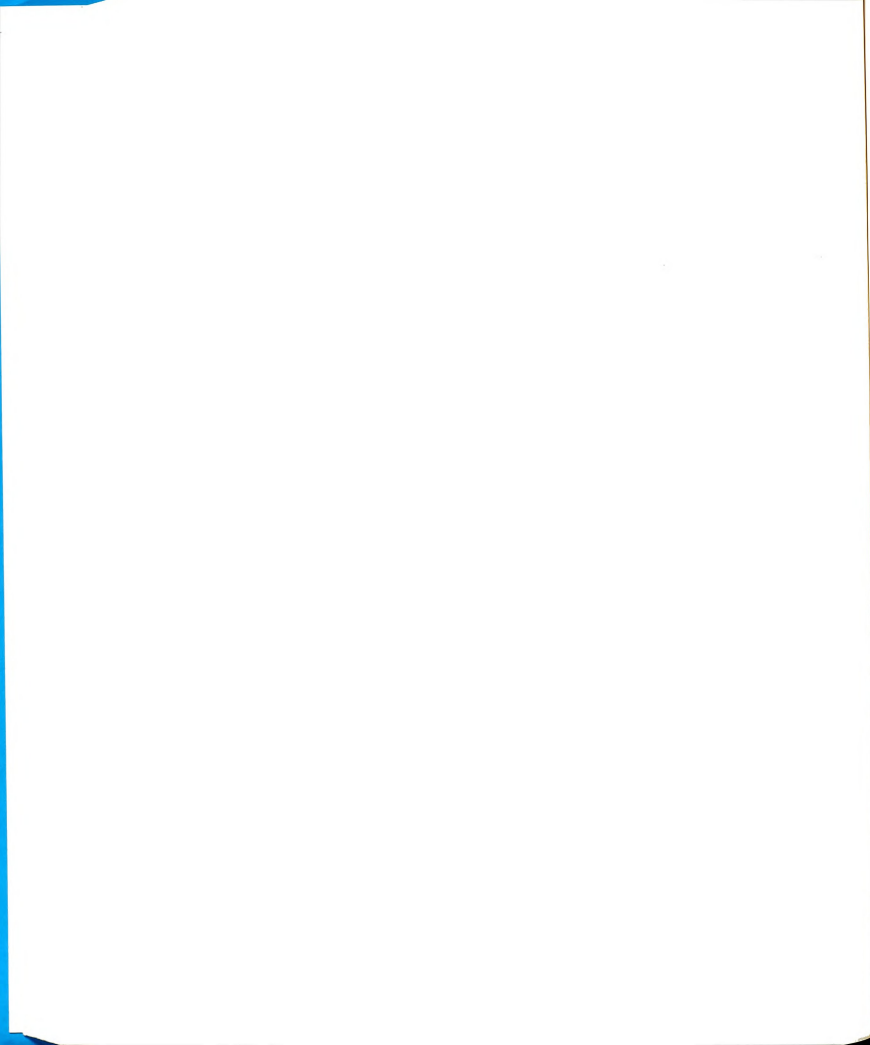


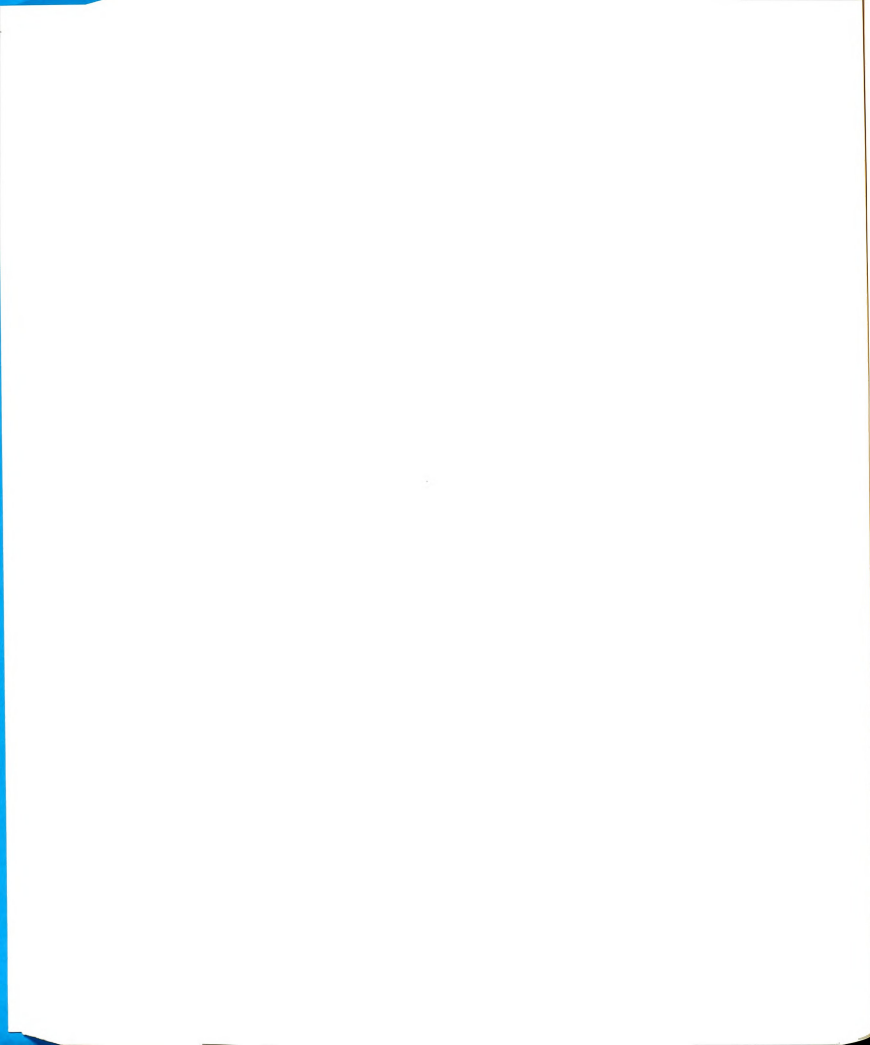
Figure 3. Mosaic Kaleidoscope of Types of Human Values, Interpersonal Resources, Access Mechanisms, Resource Channels, and Target Goals



Theoretical Conclusions and Implications for Family Ecology Theory

Maslow (1959) proposed that human beings have, intrinsic to their nature, ". . . not only physiological needs but also truly psychological ones" (p. 123). According to Maslow these needs are related to each other in a "hierarchical and developmental way, in an order of strength or priority" (p. 123). Maslow considered that all the needs could be subsumed under the need for self-actualization. He reported that this has been variously labeled by different authors as self-realization, psychological health, autonomy, creativity, and integration. "But all agree that this amounts to realizing the potentialities of the person, that is to say, becoming fully human, everything that the person can become" (p. 123). If all the needs are subsumed under the need for self-actualization, a variety of values and resources necessarily come into play if humans are to move in the direction of "becoming all that a human can become."

Human beings do not self-actualize in isolation but rather in environmental communion and interdependence. A change in the environment produces an answering change in the human and vice versa in much the same way as between two interdependent human beings. As reported by Diesing (1962), when two human beings constantly share action and experience, "A change in one produces an answering change in the other, they are constantly adjusting to one another, constantly changing" (p. 236-237). This interdependence also exists between and among human beings and their environments. A search for understanding of the mysteries of human existence, the environment and our place in it is at the core of self-actualization. An understanding of place, with

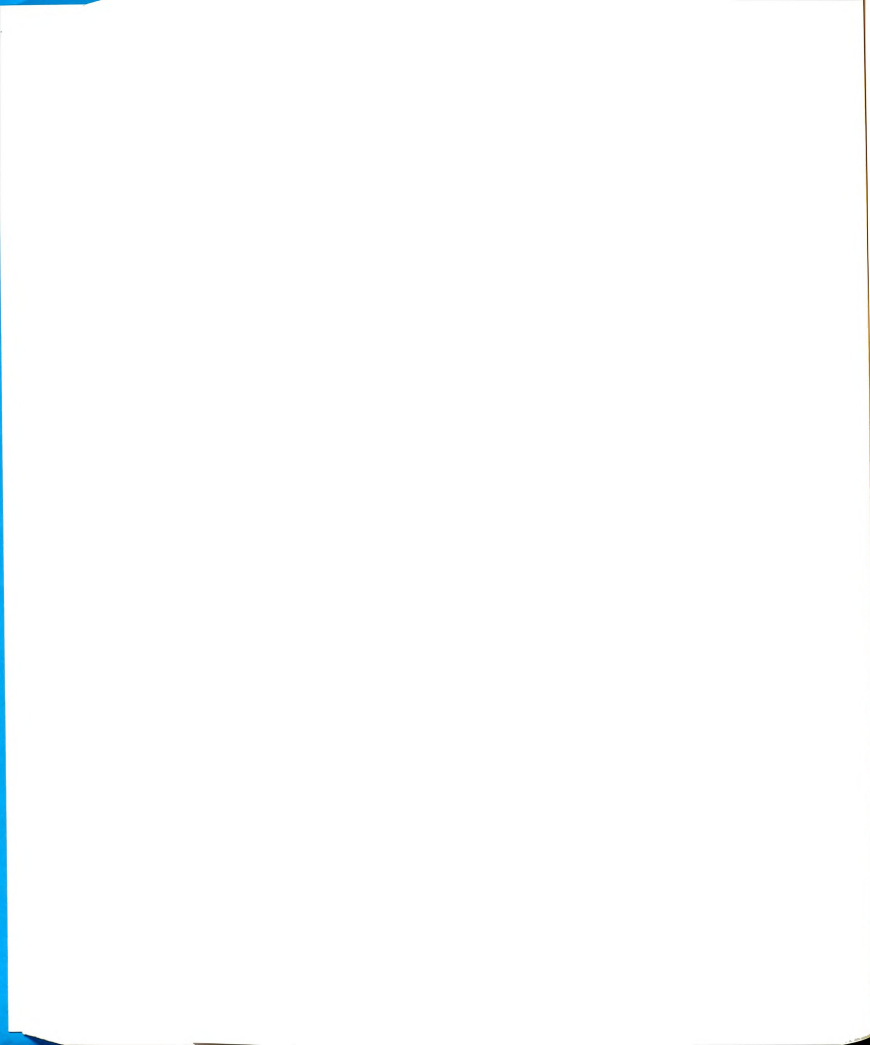


respect to human constructions within the socio-cultural environment and adaptations within the natural/physical biological and human built environments, is essential for the evolution and survival of humans as well as their environments.

The Hardings' attempts to self-actualize led them to the environment of the small scale farm. In this regard Ted and Joanne felt that resourcefulness was their greatest asset. Resourcefulness defined by Paolucci (1985) as "right household management" respects the source (Berry, 1987). The total environment, its many facets interrelated, interactive, and interdependent, is the source. As presented by Bubolz and Sontag (1990 in press), the total environment includes the natural physical-biological, socio-cultural, and human built environments. According to Bubolz and Sontag (1986), "The environment provides the context or setting in which individual and family activity takes place" (p. 12). Although the environments are interrelated, interactive, and interdependent, the reciprocity between and among humans and their environments can be conceptualized according to the predominant mode of exchange within each of the three conceptually distinct environments.

Information gained from this dissertation research contributes to the development of a conceptualization of environmental context in relationship to types of needs and specific values benefits. It is proposed that human values affect the environment and the environment affects human values according to the following primary relationships.

Within the context of the natural/physical biological environment the human is provided with air, water, sunshine, food, and shelter. The human's attempts to realize physical/material and economic values

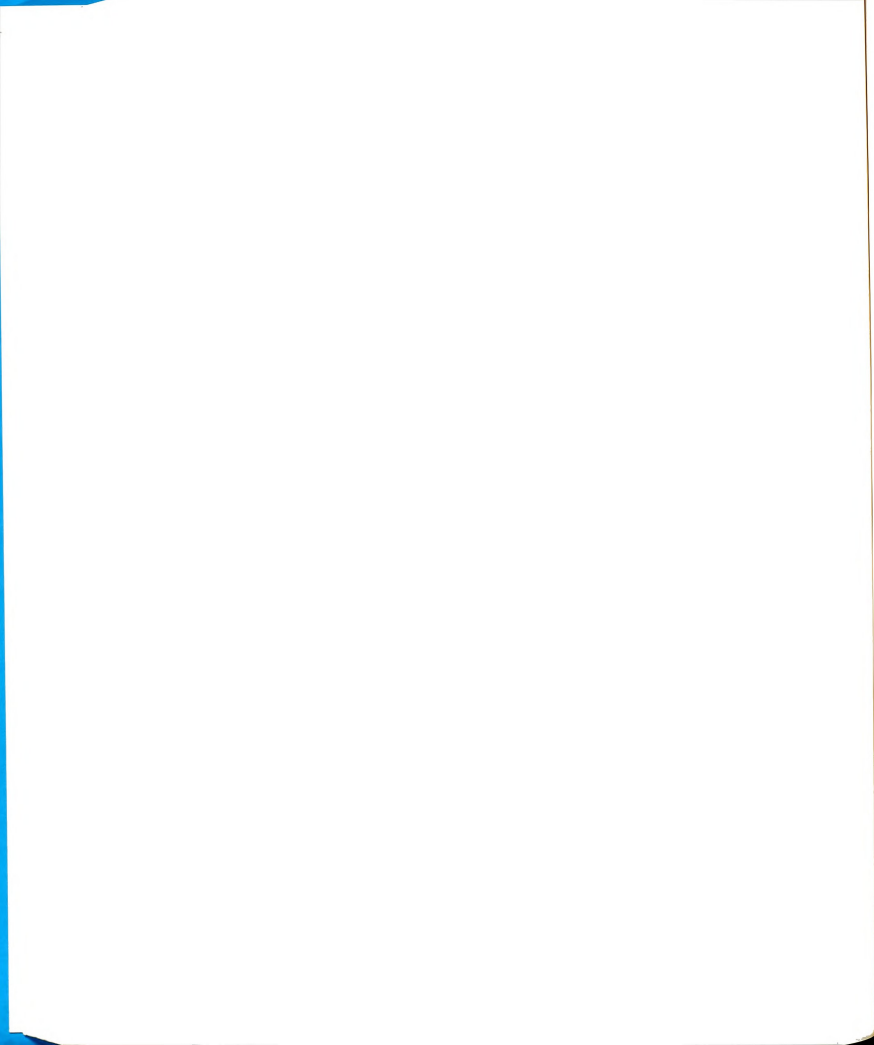


including health, comfort, physical security, economic security, and productiveness has a profound effect on the natural/physical biological environment. Humans have the power to conserve, deplete, or restore the environment.

The needs of human beings and all other species are intrinsically connected. . .How humans function to meet needs depends on the ability of individuals to perceive stimuli from the environment and make choices from available resources (Clifford, 1989, p. 21).

Values come into play in all stages of the act of choice (Paolucci, Hall, and Axinn, 1977). How individuals choose from available resources and regulate time, space, and energy to meet needs depends on their ability to adapt in response to differing environmental conditions. Human adaptation, "household management" (ecology and economics), affects the ability of resources to "resurge." Resurgence, according to Berry (1987), will not occur if humans ask too much, for the environment must also adapt to the human.

Within the context of the human built environment, including its interface with the socio-cultural environment (e.g., human social constructions), the need for understanding the mysteries of human existence, the environment, and our place in it is primary. The human's attempts to realize intellectual, moral/political, spiritual, and aesthetic values including intelligence, competence, honesty, fairness, justice, peace of mind, clearness of conscience, beauty, and symmetry have a profound effect on the human built environment and human social constructions. The human built environment and the socio-cultural

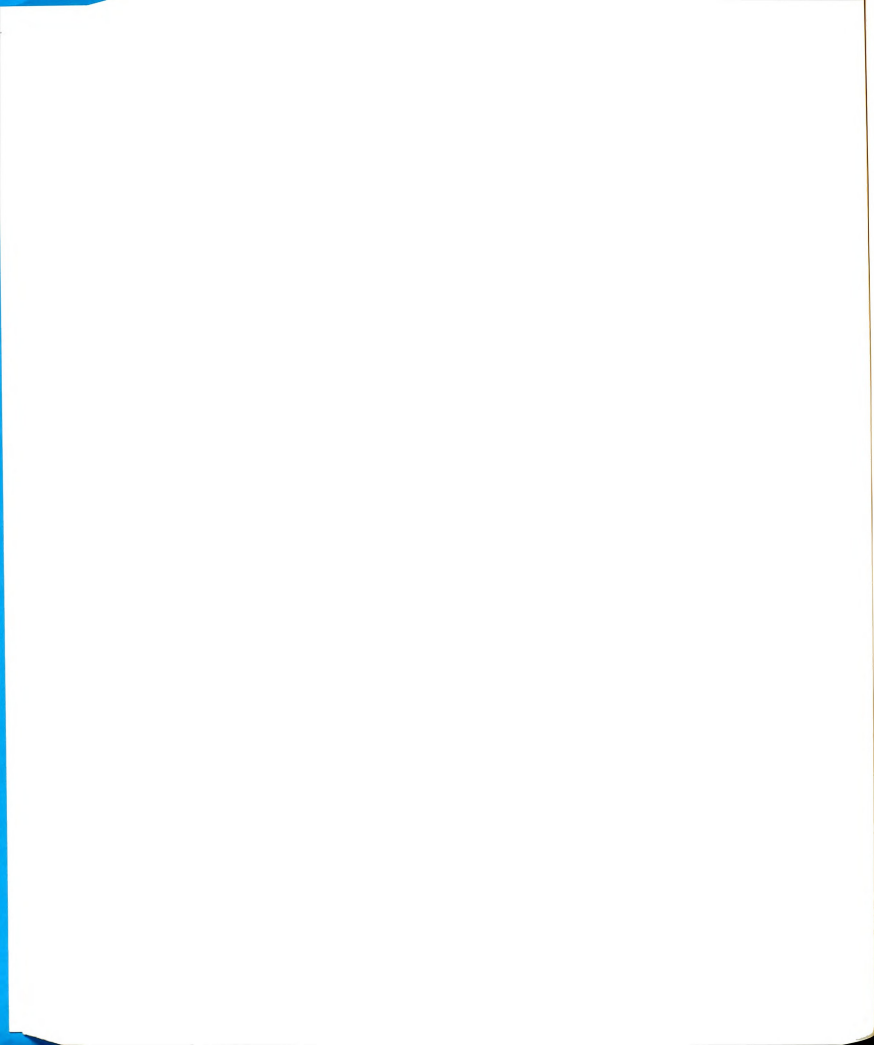


environment in turn affect the natural, physical-biological environment which in turn affects the realization of physical/material values benefits, and so on. In this respect, "humans live in their environments and their environments live in them" (Meeks, 1986).

Within the context of the socio-cultural environment the need for personal interaction, the company of others, self-esteem, and the esteem of others is primary in relationship to the human's attempts to realize sentimental, social, and professional values benefits (e.g., love, acceptance, courtesy, togetherness, neighborliness, recognition, and success). Realization of these values affects the socio-cultural environment and the socio-cultural environment in turn affects to what extent these needs will be met and values realized.

These dynamic kaleidoscopic relationships are ever changing. Human needs, and likewise values, shift in priority in relationship to environmental stress brought about by constant change and adaptation processes (assimilation and accommodation). But the ability to choose gives humans a certain dignity as self-determined, goal-directed beings. "Values orientations underlie the choices made by humans" (Clifford, 1989, p. 20).

For Ted and Joanne Harding attempts to adapt and self-actualize within the family<->farm ecosystem were expressed in the family's description of their life on the farm and in actions which involved the exchange of resources [i.e., money, goods, status, services, love (affectionate regard) and information] between the family and various formal, semiformal, and informal support systems. The Hardings also established time, space, and energy mechanisms to accomplish their

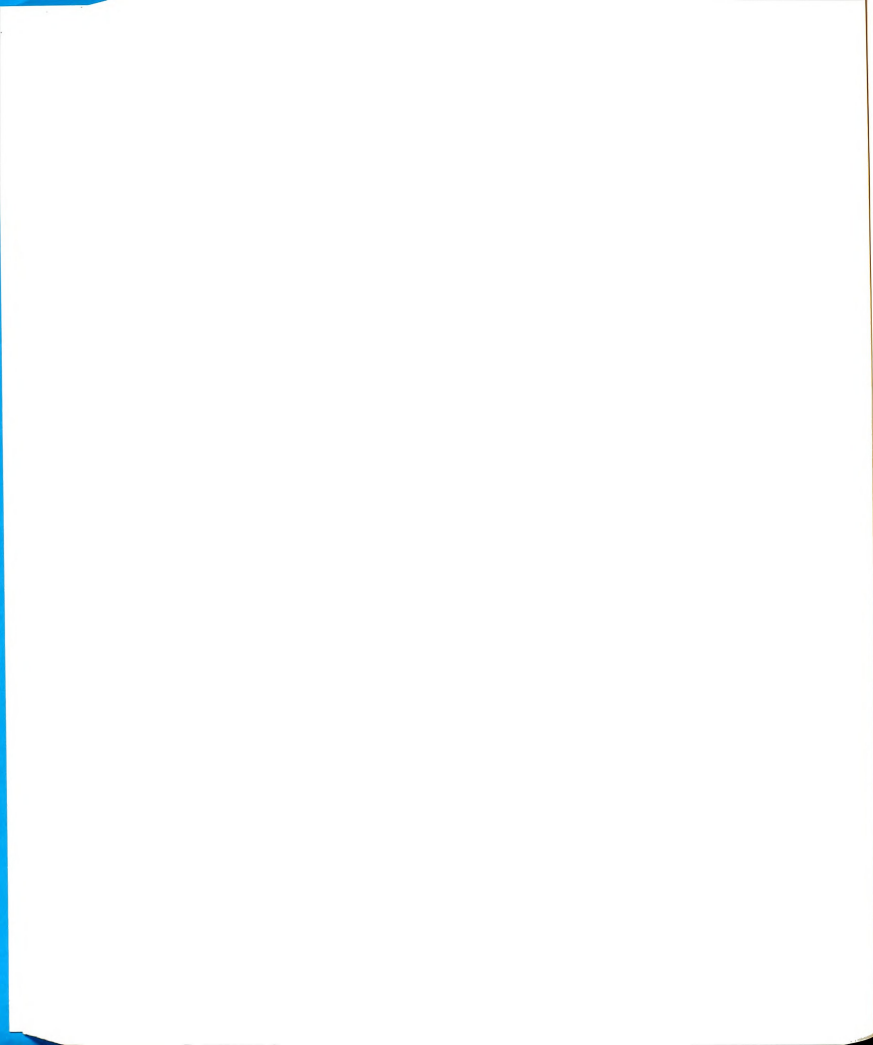


goals, which included "affect, power, and meaning target dimensions" (Kantor and Lehr (1975). As proposed by Rescher (1982), "Because of the dual aspect of values in manifesting themselves in both the spheres of talk and action" (p. 4), values orientation could be determined through systematic analysis of interview data. Interpretation of the interview data was supported by data from questionnaires, family records, and other assessment tools.

Analysis of the above-mentioned types of data indicate that for the Hardings, information was a key resource and social decision making a key process. Social decision making is an integrative process which takes into account the needs and values of all that are affected by the decision. Solidarity is necessary because, as suggested by Diesing (1962), all involved in the decision-making process must have the same cognitive map of the system. Integrative social decision making is inclusive of technical and economic decision making, an economics of human well-being comes into play here. Considering Rescher's classification of values according to the nature of the benefit, from a broader macrosystem viewpoint, what is at issue is not simply a cost->benefit situation with regard to an economic system of values for one individual, family, sector of the population, or society but rather a complex value economy that embraces a constellation of values and their accompanying benefits from a global perspective.

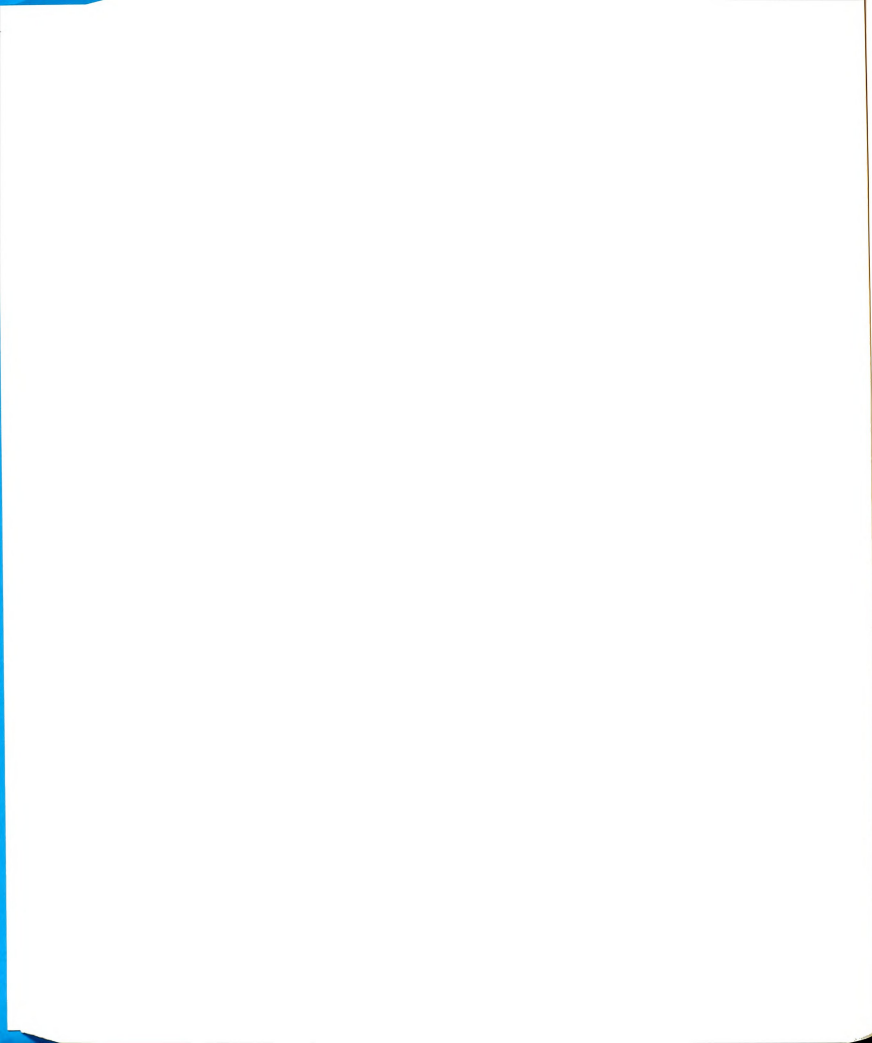
Recommendations for Future Research, Policy, and Programs

Human values and resource management are significant concepts for research in Human Ecology. By categorizing human values, resources, and



resource mechanisms, specific relationships between and among these variables were identified. Further research involving quantitative and qualitative analysis is needed to test how well this structure represents the interrelationship between values and resource management for other sectors of the population. For example, to test propositions four and five, a research instrument could be developed and used with a sample of families to determine resource choices in relation to values. Relationships among domains of values and resource management could be compared to determine similarities and differences in other cultures and lifestyles. The impact of available resources on values and the impact of values on motivation might be assessed through the use of this integrative framework. Assessment of these variables might be particularly advantageous for individuals, families, and organizations during times of transition and decision making.

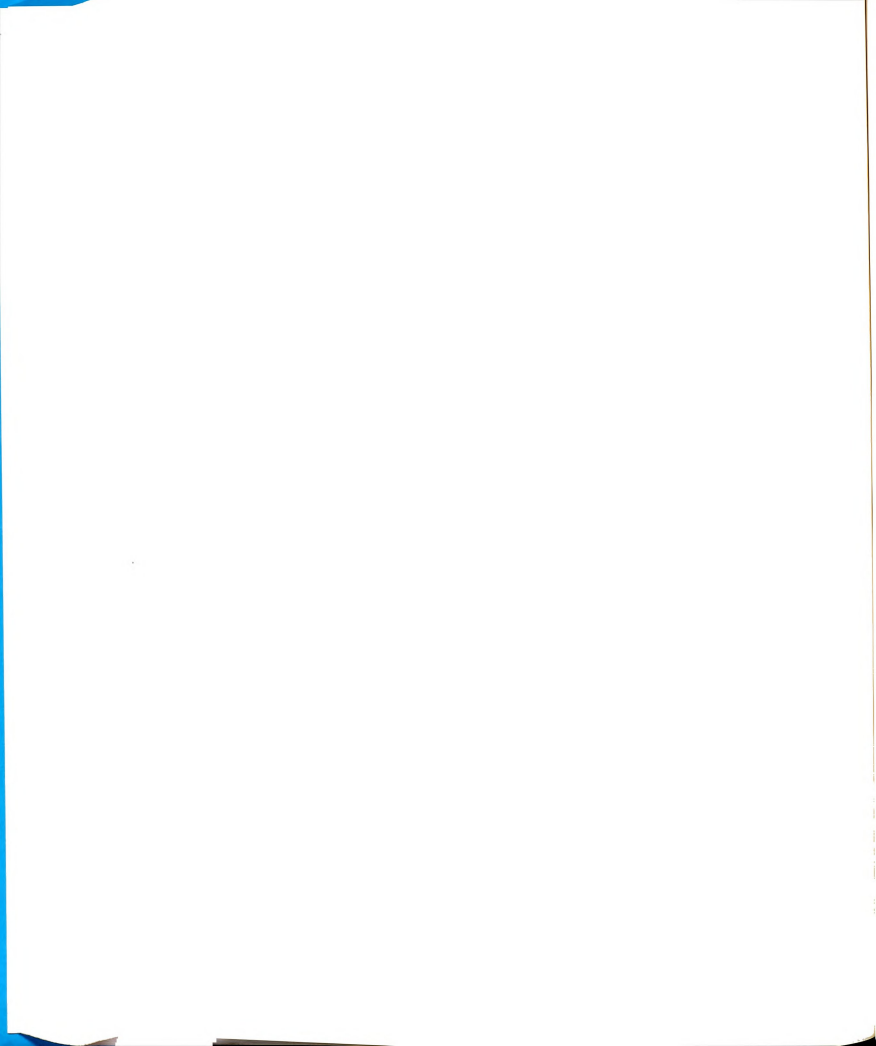
The methodology used in this research could be adapted to integrate other theories through the formation of matrices and systematic analysis of qualitative data. Grounded theory methodology accommodates multiple sources of evidence, encouraging convergent lines of inquiry which lead to analytical generalizations. Results can be generalized to some broader theories but not from one case to another. Qualitative research is used to generate hypotheses. Qualitative methods are particularly suitable when research questions arise regarding pertinent topics where new knowledge is of importance. Despite their subjectivity, qualitative methods provide a foundation for future research. The qualitative approach used in this research incorporated several conceptual perspectives used in family studies.



Pattern matching through development of the four matrices provided an organizing and supportive framework. Used in concert with multiple sources of evidence the matrices contributed to the process of integration and provided another source of inquiry. It is recommended that this method be further developed to increase validity.

The matrix format and assessment tools used in this research project could be adapted to assess needs and values at various stages of family development. In the context of family therapy, discussion and analysis of such assessment tools as the genogram, ecomap, and heritage trunk might help to identify areas of conflicting values and needs as well as aid in the identification of needed resources. Adaptations of the instruments used in this research might be developed for use in organizational resource management and decision making as well as in the family context. More research is needed to identify access mechanisms and transactional processes that work for human beings as well as their environments so that both might grow and develop in harmony. Further research on this topic is needed to expand our understanding of the human condition and our sense of place in the environment.

Small scale farm families present a challenge to agricultural scientists and Extension personnel. While technical and economic programs are essential, they are not sufficient for the small scale farmer. Integrative decision making and solidarity is needed at the macrosystem level as well. Information obtained from the Hardings points out that program developers must acknowledge the total needs and values of farm families. This research supports Berry's (1987) proposal, that the family farm is not merely agricultural but political

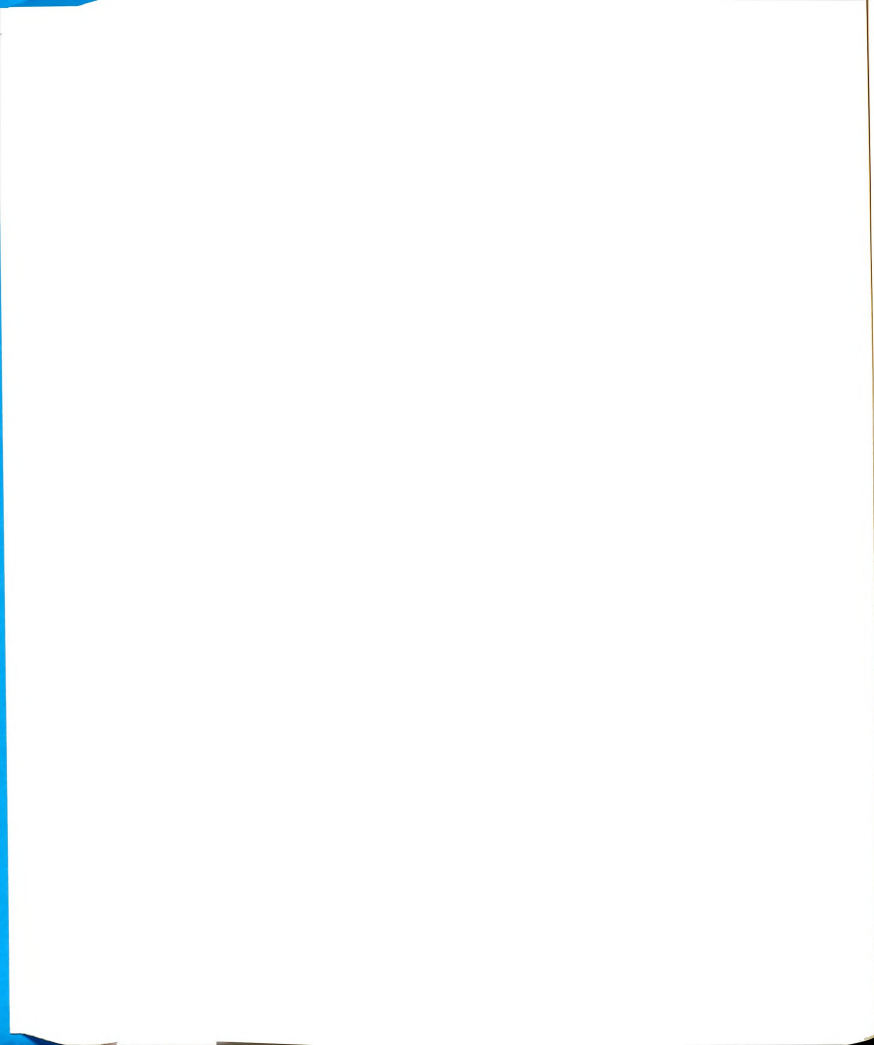


and cultural as well. There is a need for more research in this respect. If the total environment is the ultimate resource ever changing, evolving, becoming with the power to "resurge" as suggested by Wendell Berry (1987), then the transition occurring in farming at this time in history must continue to be examined for its effects on the natural physical-biological, human built, and socio-cultural environments. The small scale farm may be the seed bed for this resurgence and while economic returns from small scale farms may be insufficient to meet the family's needs, support for this farm sector may be necessary to meet the needs of farm communities including businesses and labor needs in the farm sector, which functions to meet the nation's needs.

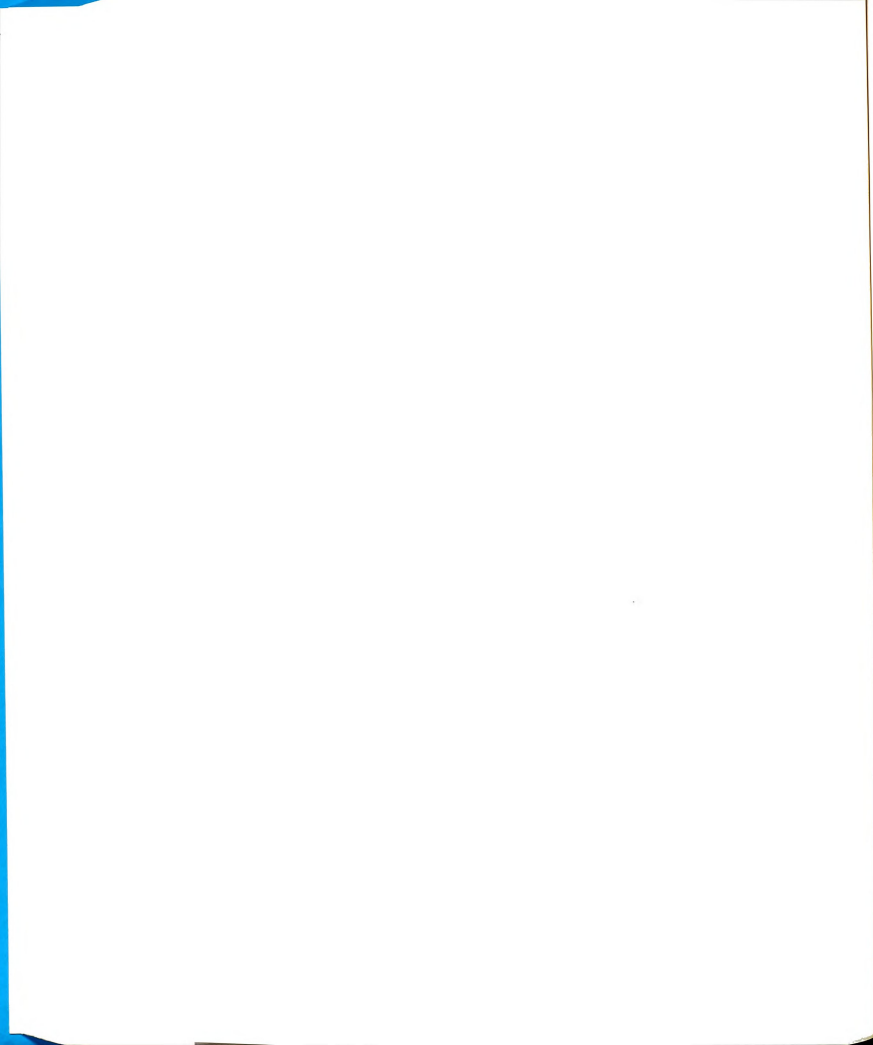
The viability of the small scale farm is an important policy question at this time in history. The Hardings' experiences point to the need for policies and programs which address the concerns of small scale farmers.

The small scale farmer needs information on how to produce food economically and efficiently without the use of chemical fertilizers, herbicides, or feed additives (Harding Proposal, p. 2).

As small scale farmers, Ted and Joanne "would like to see the development of a rural resource education center and a system for getting information on alternative technology and production methods to the small scale farmer" as well as "a working network of all farmers" (Harding Proposal, p. 2). As recommended by Wendell Berry (1987), farm policies and technologies that address both the nature of the land and the people must be developed.

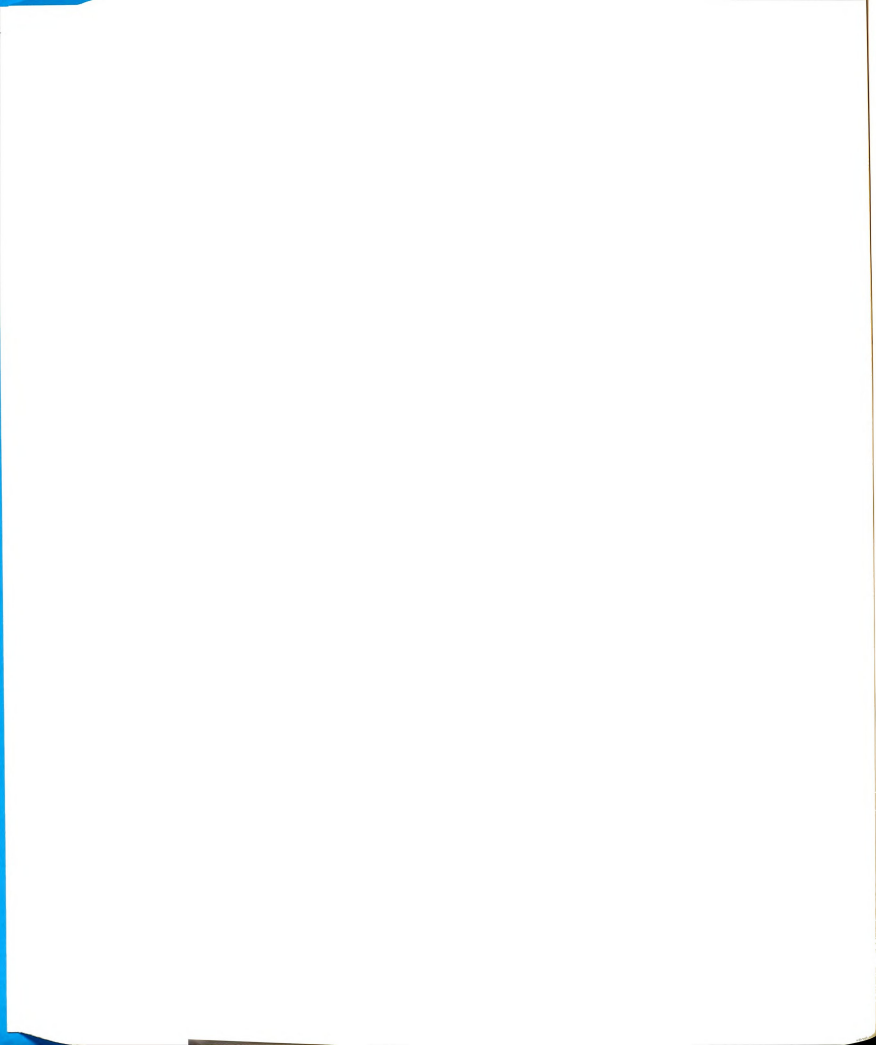


APPENDICES



APPENDIX A

APPROVAL OF RESEARCH INVOLVING HUMAN SUBJECTS
AND
INFORMED CONSENT FORM



MICHIGAN STATE UNIVERSITY

UNIVERSITY COMMITTEE ON RESEARCH INVOLVING
HUMAN SUBJECTS (UCRIHS)
238 ADMINISTRATION BUILDING
(517) 355-2186

EAST LANSING • MICHIGAN • 48824

August 5, 1983

Dr. M. Suzanne Sontag
Human Environment and Design

Dear Dr. Sontag:

Subject: Proposal Entitled, "Family Adaptation to Changing
Resources and Environments: Improving Quality
of Life in Rural Communities"

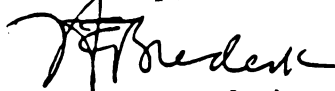
UCRIHS review of the above referenced project has now been completed. I am pleased to advise that the rights and welfare of the human subjects appear to be adequately protected and the Committee, therefore, approved this project at its meeting on August 1, 1983.

You are reminded that UCRIHS approval is valid for one calendar year. If you plan to continue this project beyond one year, please make provisions for obtaining appropriate UCRIHS approval prior to August 1, 1984.

Any changes in procedures involving human subjects must be reviewed by the UCRIHS prior to initiation of the change. UCRIHS must also be notified promptly of any problems (unexpected side effects, complaints, etc.) involving human subjects during the course of the work.

Thank you for bringing this project to our attention. If we can be of any future help, please do not hesitate to let us know.

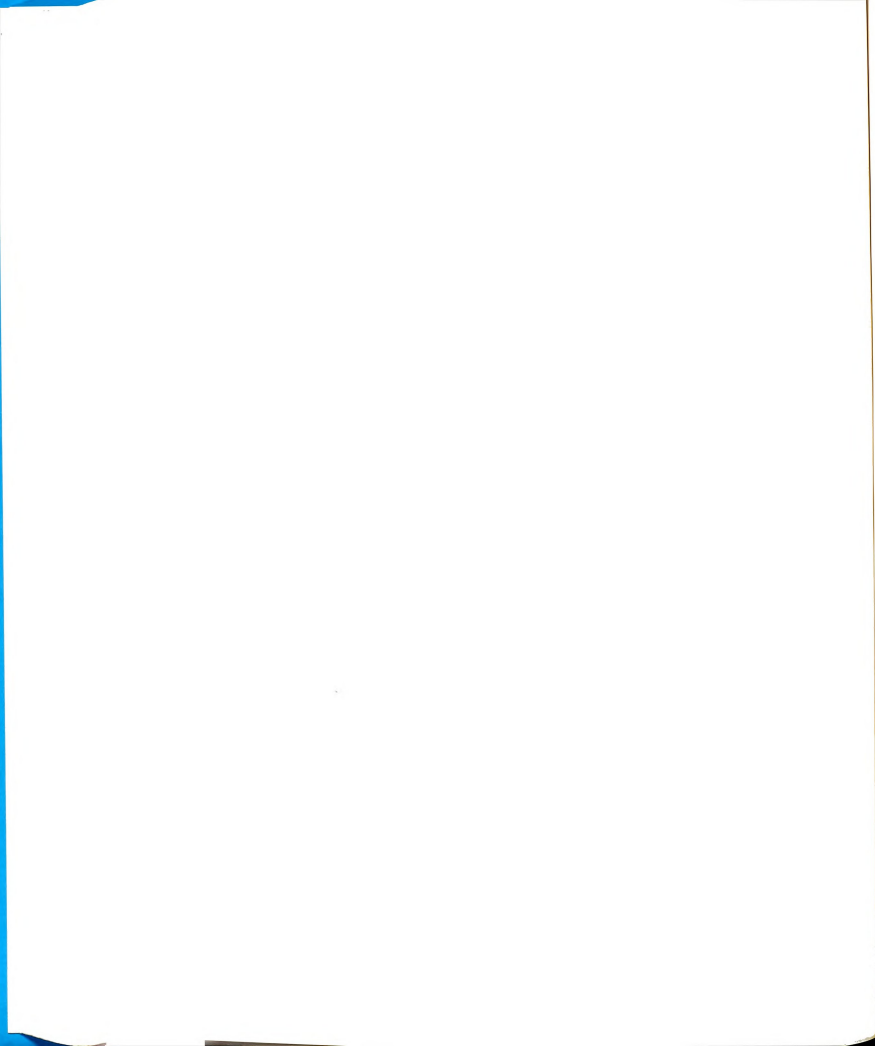
Sincerely,



Henry E. Bredeck
Chairman, UCRIHS

HEB/jms

cc: Bubolz
Slocum



MICHIGAN STATE UNIVERSITY

COLLEGE OF HUMAN ECOLOGY
DEPARTMENT OF HUMAN ENVIRONMENT AND DESIGN

EAST LANSING • MICHIGAN • 48824-1050

May 14, 1990

To: Dr. John Hudzik, Chairperson, University Committee on Research
Involving Human Subjects

From: M. Suzanne Sontag, Professor
Department of Human Environment and Design
M. Suzanne Sontag

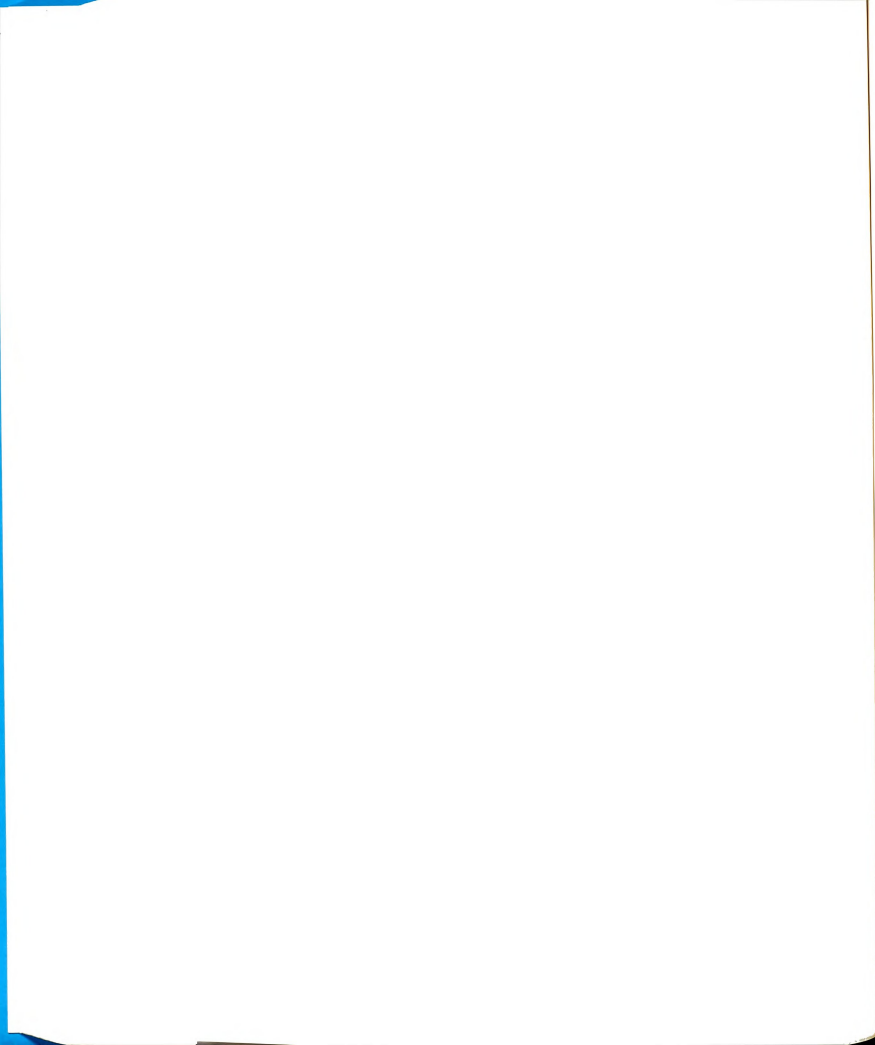
Margaret Bubolz, Professor
Department of Family and Child Ecology
Margaret Bubolz

Re: Request for continuation of UCRIHS approval for on-going projects:
"Family Adaptation to Changing Resources and Environments:
Improving Quality of Life in Rural Communities, AES Project 3261.

This project has been extended one year by the Agricultural Experiment Station. We are requesting approval for the continuation of this project through September, 1991, which is the termination date of the project. If approval through September, 1991 is not possible, we request approval for one year.

This project is directed by M. Suzanne Sontag and Margaret Bubolz. Margaret Clifford and William Abler, graduate students in Family and Child Ecology, are research assistants.

The protocol for this study remains as it was in the original proposal reviewed and approved by your committee in August, 1983. We are completing the analysis and preparing a report of the findings. Our involvement with the families will be for purposes of review and clarification of the findings.



MICHIGAN STATE UNIVERSITY

UNIVERSITY COMMITTEE ON RESEARCH INVOLVING
HUMAN SUBJECTS (UCRIHS)
206 BERKEY HALL
(517) 353-9738

EAST LANSING • MICHIGAN • 48824-1111

June 5, 1990

IRB# 89-284

Professor M. Suzanne Sontag
Professor Margaret Bubolz
College of Human Ecology

Dear Professors Sontag and Bubolz:

RE: "FAMILY ADAPTATION TO CHANGING RESOURCES AND ENVIRONMENTS:
IMPROVING QUALITY OF LIFE IN RURAL COMMUNITIES, AES PROJECT 3261
IRB# 89-284"

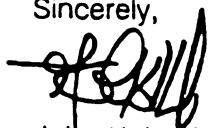
UCRIHS' review of the above referenced project has now been completed. I am pleased to advise that the rights and welfare of the human subjects appear to be adequately protected and the Committee, therefore, approved this project at its meeting on June 4, 1990.

You are reminded that UCRIHS approval is valid for one calendar year. If you plan to continue this project beyond one year, please make provisions for obtaining appropriate UCRIHS approval one month prior to June 4, 1991.

Any changes in procedures involving human subjects must be reviewed by the UCRIHS prior to initiation of the change. UCRIHS must also be notified promptly of any problems (unexpected side effects, complaints, etc.) involving human subjects during the course of the work.

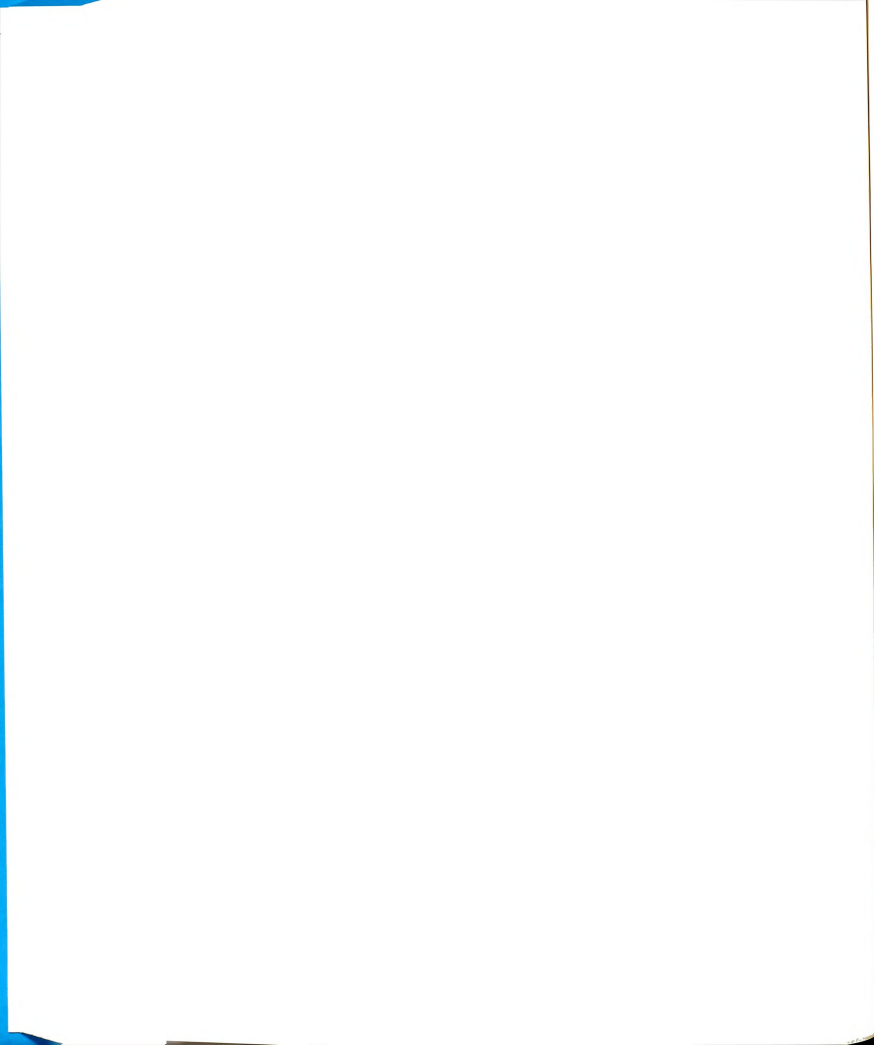
Thank you for bringing this project to our attention. If we can be of any future help, please do not hesitate to let us know.

Sincerely,



John K. Hudzik, Ph.D.
Chair, UCRIHS

JKH/sar



INFORMED CONSENT FORM

Department of Family and Child Ecology
Department of Human Environment and Design
MICHIGAN STATE UNIVERSITY

We, the undersigned, freely consent to participate in a scientific and educational study being conducted under the supervision of Margaret M. Bubolz, Ph.D. and M. Suzanne Sontag, Ph.D.

The study has been explained to us, and we understand the explanation that has been given as well as what our participation will involve.

We understand that the duration of our involvement in the research project is for a three year period during which time we will participate on a periodic basis in completion of questionnaires, self-reports, individual and family group interviews, and use of and evaluation of computer software for family resource management.

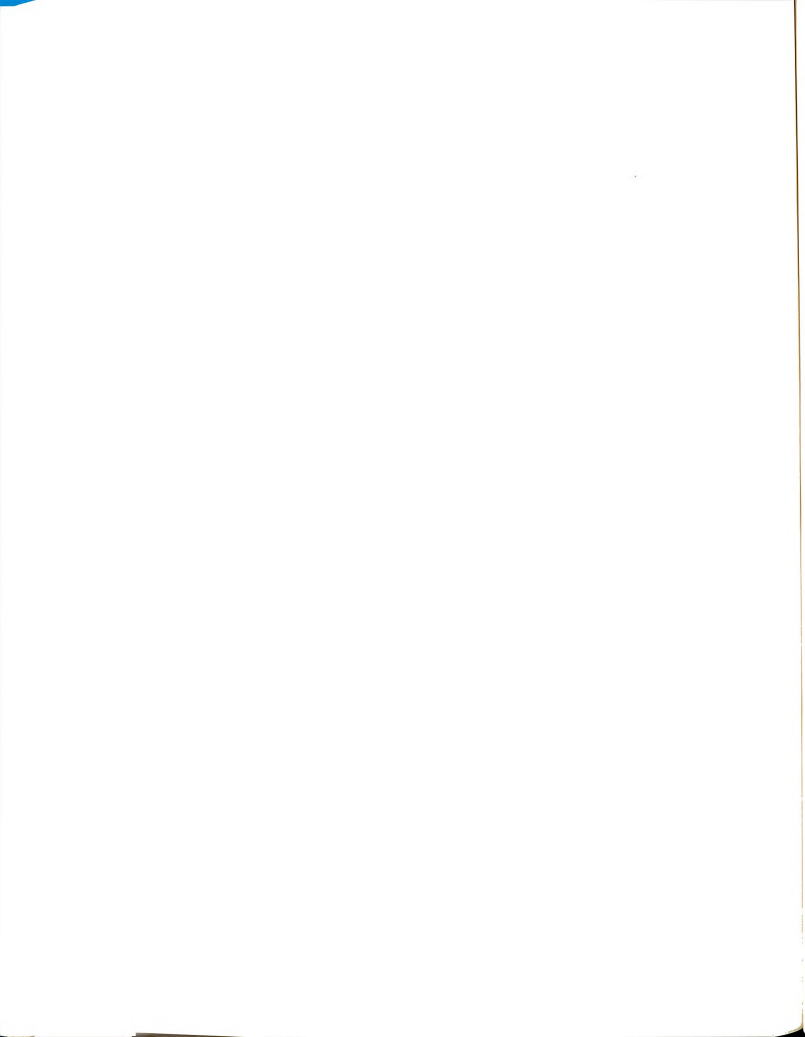
We understand that the interviews will preferably be audio tape recorded, but that we have the right to refuse to permit any or all portions of an interview to be taped. In such instances, interviewers will take notes. We further understand that only the research staff will have access to the tapes and notes, and that they will be destroyed upon completion of the project.

We understand that some self-reports may be shared with other family members only if the self-reporting member gives permission to the researchers. Such permission can be withdrawn at any stage of the study.

We understand that because of the small number of participating families, every effort will be made to protect our anonymity in published reports. We further understand that anonymity cannot be guaranteed.

We understand that members of the research staff will treat the information in confidence and that we will have the opportunity to review publishable reports whenever possible.

We understand that we are free to discontinue our participation in the study at any time without penalty, including loss of contract.



We understand our participation in the study may result in some benefit to the family or to one or more of its members, but such beneficial results are not guaranteed.

We desire to participate in this research and consent and agree. We as legal parents/guardians of the below named children, give our consent for the children to participate in the study to the degree to which each child desires and assents.

Please sign your first and last names.

Adult female signature

Date

Adult male signature

Date

Child #1 Name

Child #2 Name

Child #3 Name

Child #4 Name

Address

City

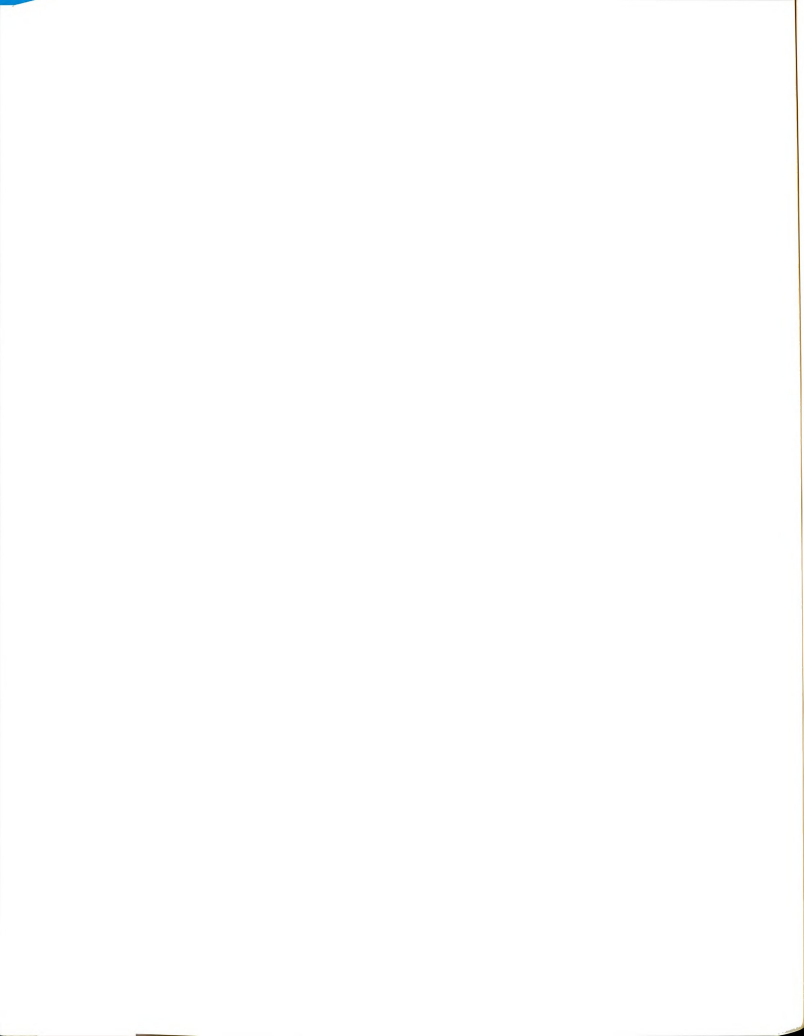
State

Zip

(_____) _____
Telephone

APPENDIX B

RESEARCH CHRONOLOGY: THE FIRST YEAR



RESEARCH CHRONOLOGY: THE FIRST YEAR

MAJOR DATA COLLECTION POINTS¹

| <u>DATE</u> | <u>METHOD OR EVENT</u> |
|-------------|---|
| 2/14/84 | Family Advisory Committee Meeting |
| 3/21/84 | Baseline Questionnaire |
| 5/24/84 | Family Advisory Committee Meeting |
| 8/18/84 | Move to Farm |
| 10/3/84 | Interview #1: Values and Goals |
| 11/8/84 | Family Advisory Committee Meeting |
| 11/9/84 | Time Series #1 Begins |
| 11/27/84 | Interview #2: Coping with Stress and
Adaptation to Change; Instructions for
Completing Genogram; Record Keeping |
| 12/27/84 | Time Series #1 Ends |
| 12/84-1/85 | Completion of Genogram |
| 1/31/85 | Interview #3: Instructions for Completing
Ecomap #1 [6 months]; Genogram (picked up) |
| 1/85-2/85 | Completion of Ecomap #1 [6 months] |
| 2/9/85 | Time Series #2 Begins |
| 2/21/85 | Family Advisory Committee Meeting |
| 2/26/85 | Interview #4: Family History; Genogram and
Ecomap #1 [6 months] (discussed) |
| 3/85 | 6 Months Questionnaire |
| 3/9/85 | Interview #5: Farm Enterprises (Group
Interview: Family 1 [male]; Family 2 [male
and female]; Family 3 [male and female]) |

¹This list of major data collection points, which includes a description of data collected during the first year of the larger research project, is from a more extensive list developed by Sontag, Bubloz, Abler, and Clifford (In Progress).

| | |
|----------|--|
| 3/29/85 | Time Series #2 Ends |
| 4/17/85 | Interview #6: Decision Making |
| 5/9/85 | Time Series #3 Begins |
| 5/15/85 | Family Advisory Committee Meeting |
| 6/12/85 | Interview #7: Individual Roles and Division of Labor |
| 6/26/85 | Time Series #3 Ends |
| 7/30/85 | Interview #8: Environmental Goals;
Instructions for Completing Floor Plan |
| 8/9/85 | Time Series #4 Begins |
| 9/26/85 | Time Series #4 Ends |
| 10/22/85 | Interview #9: Interim Project Evaluation;
Floor Plan (picked up) |

APPENDIX C

METHODS OF DATA COLLECTION

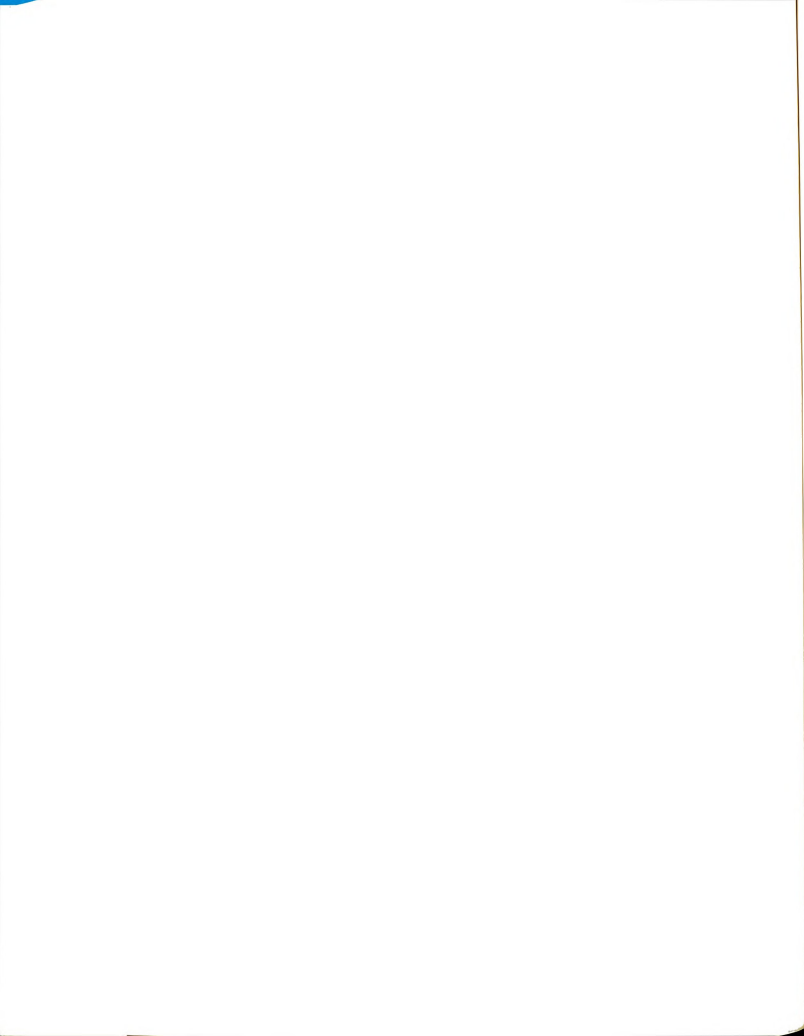


Table C1. Family Interviews¹

| Topic | Description of content |
|---|--|
| Values and goals | Individual and family values and goals (short and long term) related to family and farm life, the environment, material goods, education and personal development, and community interaction |
| Coping with stress and adaptation to change | Expected and actual life events; sequences of events and actions taken; perception of demands and affective response; sources of support; effects on personal and family life |
| Discussion of ecomaps | Discussion of relationships to support systems and resource exchanges as illustrated on ecomaps |
| <u>Family history.</u>
<u>Relationship between</u>
<u>the farm family and</u>
<u>other support systems</u> | <u>Discussion of family history and family</u>
<u>relationships over four generations, with</u>
<u>the aid of the genogram assessment tool, in</u>
<u>order to understand the influence of</u>
<u>ancestral background on occupation and</u>
<u>individual and family development.</u> |
| Farm enterprises | <u>Expectations for, experience with, and</u>
<u>outcomes of various farm enterprises and</u>
<u>appropriate technologies</u> |
| Decision making | Processes of decision making with respect to farm enterprises, off-farm employment, household, family relationships and human development. Perception of importance of decisions; recognition of need for decisions; alternative courses of action considered and selected; action on, outcomes of, and satisfaction with decisions made |

¹Note: The list of interviews (analyzed for this dissertation research) and description of content in Table C1 includes a partial list developed for the larger research project by Sontag and Bubolz, adapted from Table 3.3 in Sontag, Bubolz, Abler, and Clifford (In Progress).

Table C1 (Con't)

| Topic | Description of content |
|--|--|
| Environmental goals | Extent of and satisfaction with accomplishment of environmental goals related to house, clothing, food, equipment (household and farm), farm site, and natural environment. Modification and postponement of environmental goals; new environmental goals |
| Interim project evaluation | Evaluation of research/demonstration project from family's perspective; expectations vs. reality of participation; support and assistance received; project structure and functioning; appropriateness of data collection; desirable changes in future; development and improvement of skills; time demands and time use; financial needs and resources; expectations for and changes in lifestyle |
| The built environment:
Meaning and usage | Organization, utilization, personalization, and meaning of housing and furnishings; changes in these over time. Discussion facilitated by the family's prior preparation of floor plans |
| Heritage trunk
assessment
tool and approach to
childrearing | Discussion of family heritage; parental goals for children; parental agreement on childrearing practices |

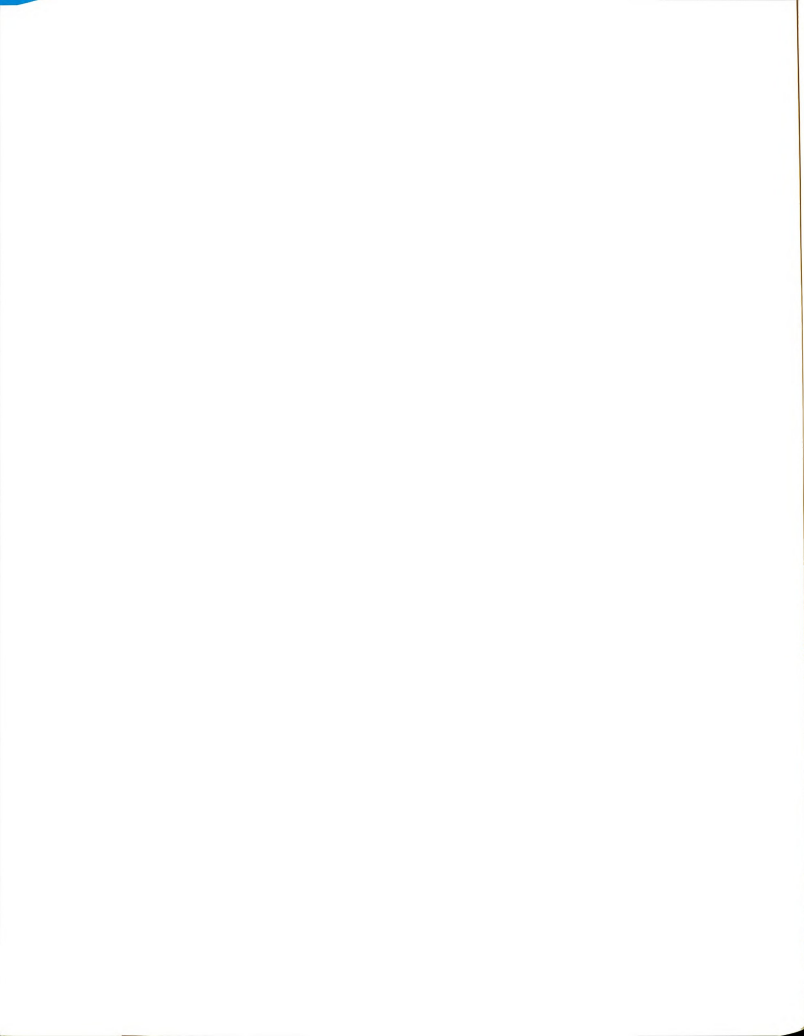


Table C2. Family Records ¹

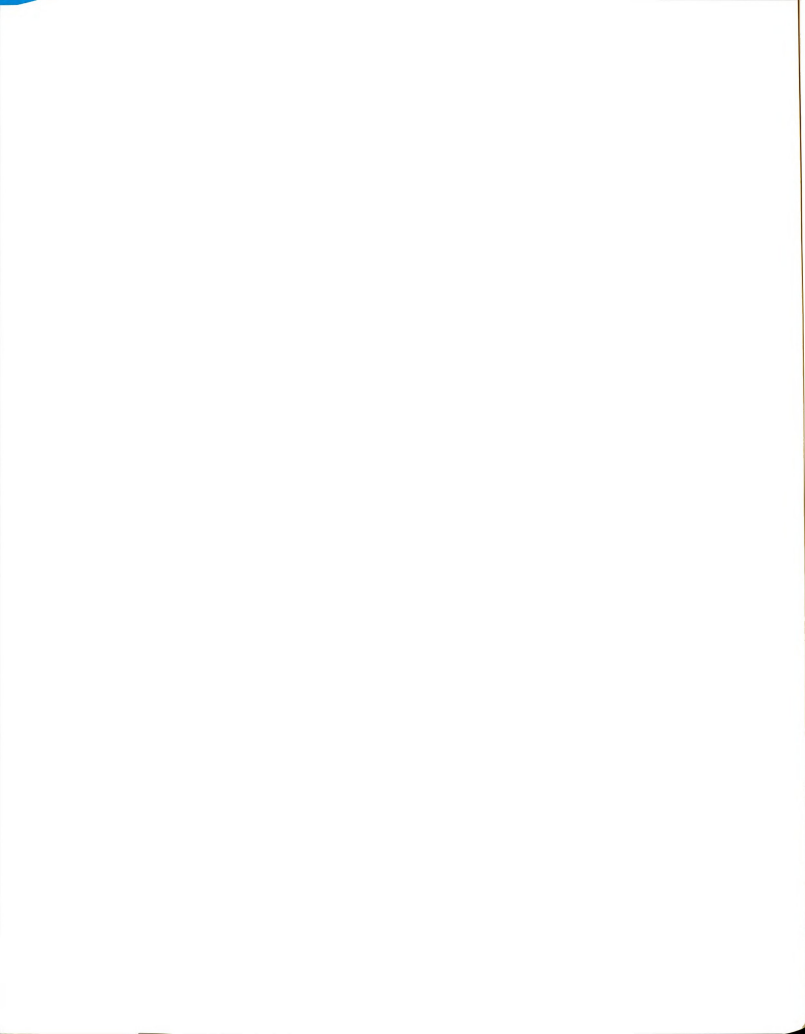
| Type of record | Purpose | Description |
|--|---|--|
| Daily Activity Record | Provide a measure of time required and division of labor in household, farm, and off-farm activities during representative composite weeks | Sequential record of time spent on daily activities of 10 minutes duration or longer |
| Non-routine and Seasonal Activity Record | Provide a measure of time required and division of labor in non-routine and seasonal household, farm, and off-farm activities not normally captured in Daily Activity Record | <u>Time spent on major activities that require 1/2 hour or more and do not occur on a daily or weekly basis</u> |
| Changes in Major Routine Activity Record | Identify dates of changes in significant activities that may affect farm and household functioning | Beginning or ending dates of <u>major routine activities</u> , e.g., <u>beginning or ending a job, preschool, or continuing education activities</u> |
| External Contact Record | Identify inputs of community and other resources by farm families for agricultural enterprises and home-based business | Contacts with groups or persons who provide services, information, technology, energy, money, or goods for home-based business or agricultural enterprises |
| Financial Record | Document types and sources of economic inputs and outputs; record household and farm financial management transactions; develop a realistic economic accounting procedure for small scale farmers | Spread sheet program of categories and amounts of income and expenditures |
| Production Record | Document the outputs of management and production processes and activities | Amount, value, marketing, and utilization of crops, animals, food, fuel, fiber, and other goods and services produced for sale and for farm and home use. |

¹Note: Description of records is from Sontag, Bubolz, Abler, and Clifford (In Progress). Adapted and printed here with permission of the authors.

Table C3. Assessment Tools¹

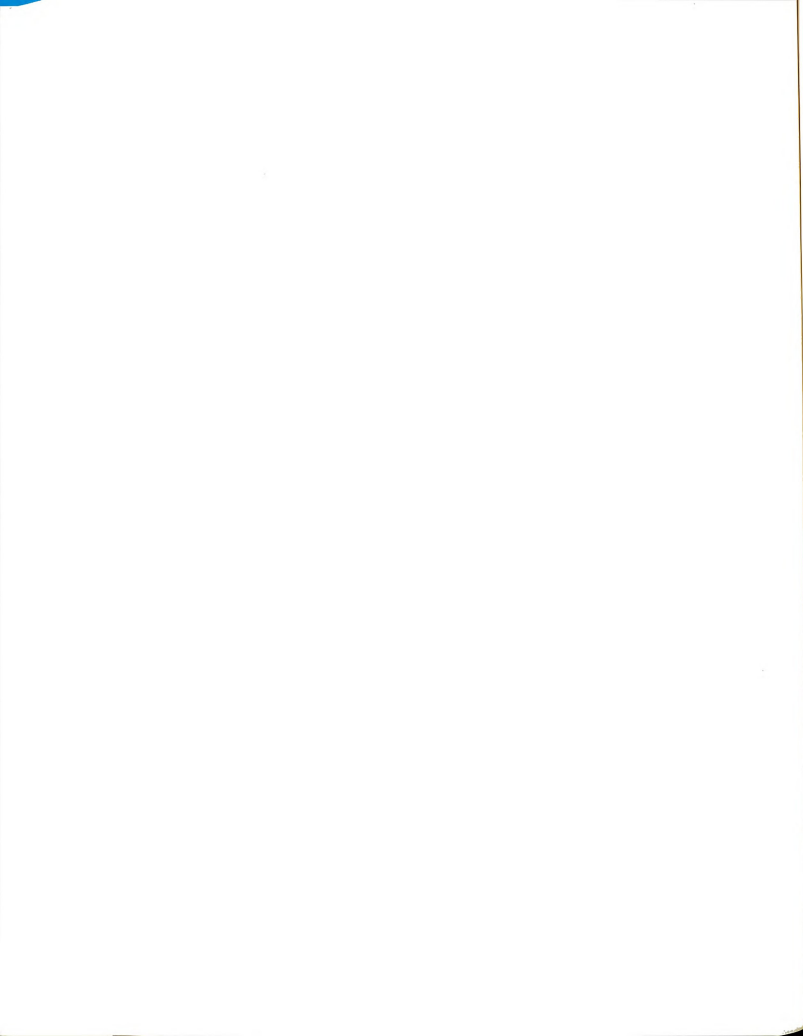
| Assessment tool | Purpose | Description |
|-----------------|--|---|
| Questionnaire A | Determine the level of self-involvement of each spouse in decision making and in farm and household tasks. Monitor perceptions of time and resource use. <u>Provide descriptive data on the family</u> | <u>Expectations for and perceptions of participation in decision making and performance of household and farm tasks and use of time and money.</u> Perceptions of level of skill one has and needs in performing various farm and household tasks. <u>Demographic data, residential family history, and farm experience</u> |
| Questionnaire B | <u>Assess personal and familial resources and characteristics and perceived quality of life</u> | <u>Affective evaluation of life concerns</u> (Andrews and Withey 1976); self-anchoring ladder of satisfaction with life in general, family life, and work (Cantril 1965); New York State Self-esteem Scale (Rosenberg 1982); Rotter's Locus of Control Scale (Robinson and Shaver 1973); <u>Family Adaptability and Cohesion Scale [FACES II]</u> (Olson, Bell, and Portner 1982) |
| Genogram | Provide a multigenerational perspective of the family's history and identify family patterns and events related to farm and home | Diagram of the family's genealogy through four generations, including significant life events (such as births, deaths, marriages, divorces), geographic residence, occupation, and education (Hartman 1979; Holman 1983) |
| Ecomap | Identify formal, semiformal, and informal support systems in the environment with which resources are exchanged by the farm family | Map constructed by the family showing friends, neighbors, relatives, and other community support systems in their environment. Map shows types and direction of flow of various resources into and out of the family system and strength of relationships (Hartman 1979; Holman 1983) |
| Heritage Trunk | Identify the nature of the heritage the adult family members wish to pass on to their children | A list and description or photograph of artifacts or living things which the adult family members wish to pass on to their children, together with an explanation of why each was selected |
| Floor Plan | Identify the size, location, use of household space and meaning of the built environment | A floor plan for each level of the house, drawn to scale, showing arrangement and function of rooms |

¹Description of Assessment Tools is from Sontag, Bubolz, Abler, and Clifford (In Progress). Adapted and printed here with permission of the authors.



APPENDIX D

ECOMAP SIMULATION



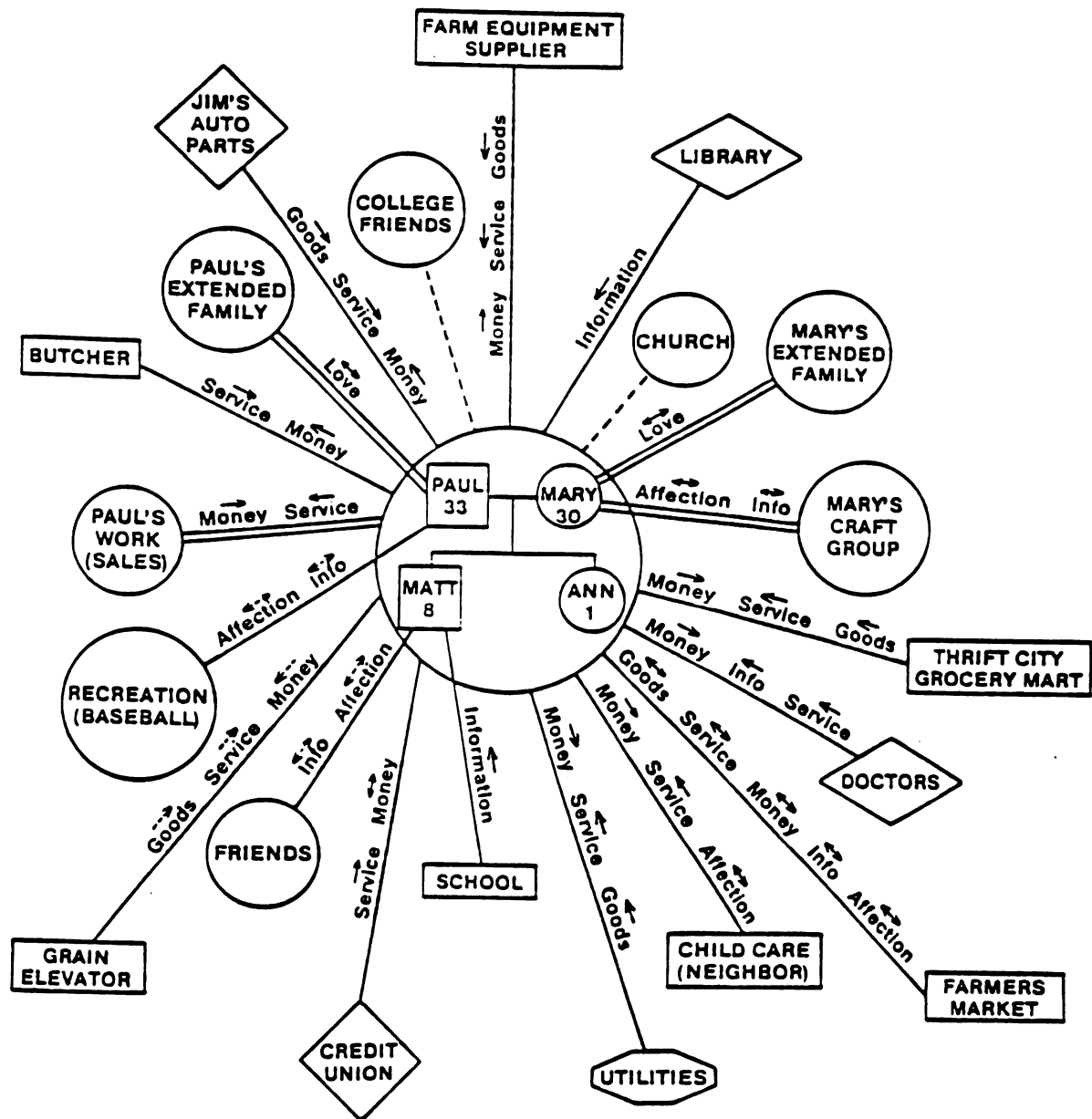


Figure D1. Ecomap Simulation

Note: The Ecomap Simulation is from Sontag, Bubolz, Abler, and Clifford (In Progress). Printed here with permission of the authors.

APPENDIX E

HUMAN SUPPORT SYSTEMS

SEMIFORMAL SUPPORT SYSTEMS

INFORMAL SUPPORT SYSTEMS

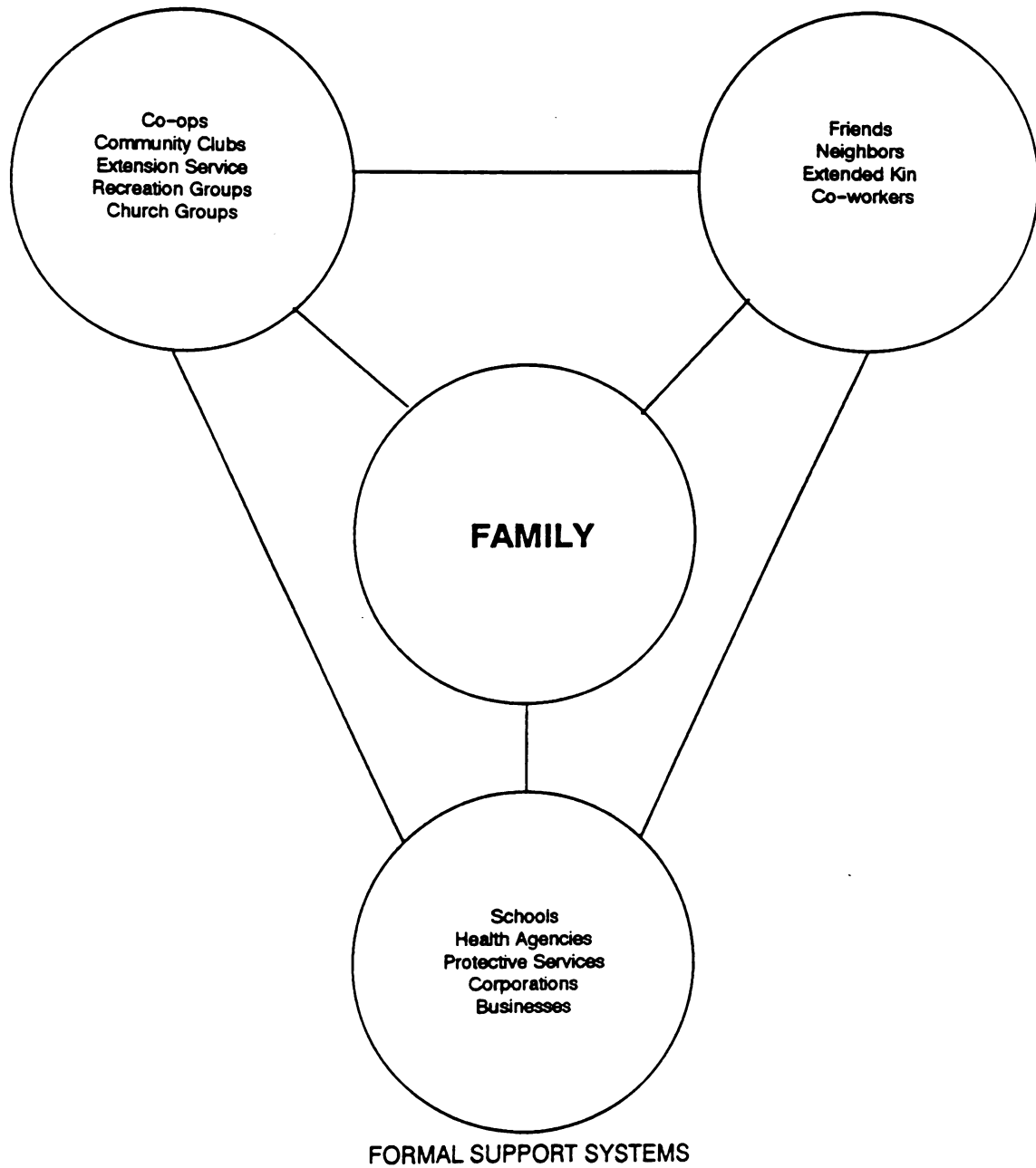


Figure E1. Human Support Systems

Note: Adapted from Clifford and Bubolz (1987); Andrews, Bubolz, and Paolucci (1980)

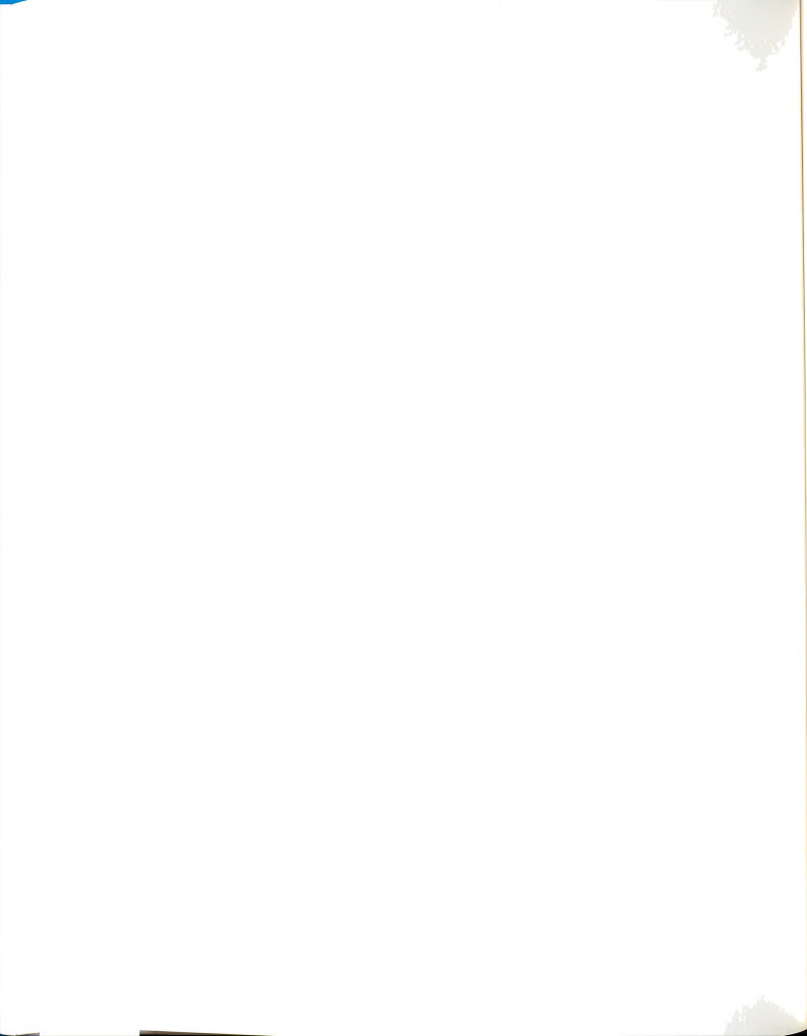
APPENDIX F

CODING SCHEMA

APPENDIX F

CODING SCHEMA

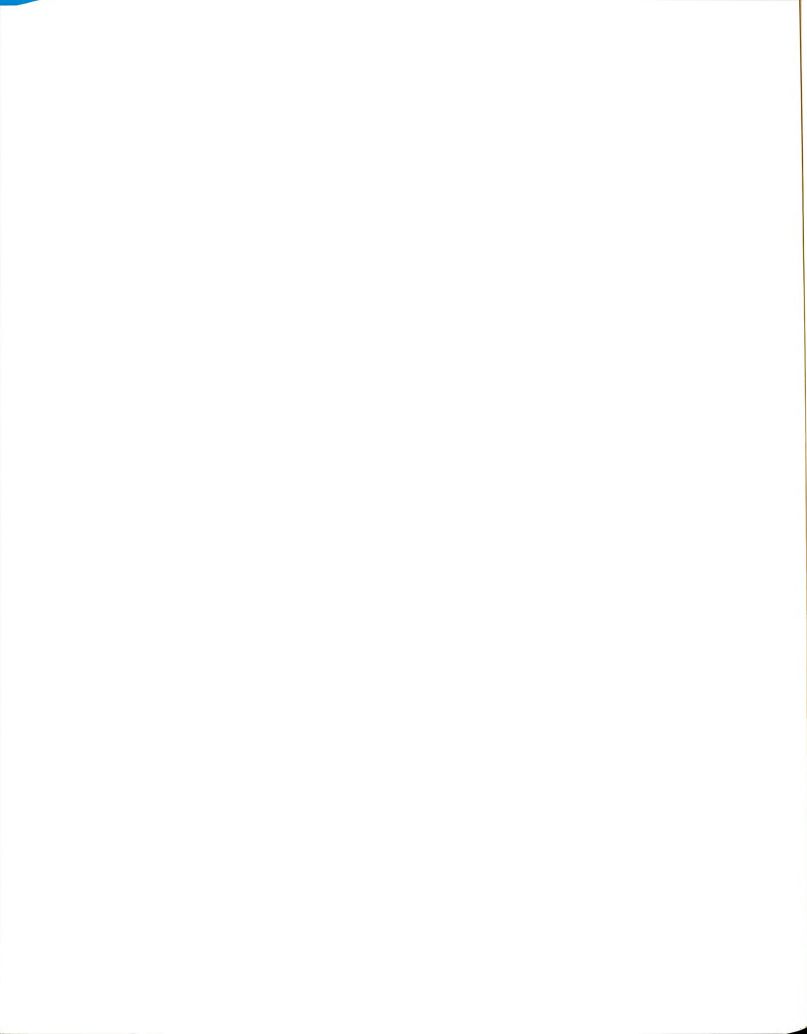
| STATEMENTS | RESOURCES | RESOURCE CHANNELS | ACCESS MECHANISMS | NEEDS | VALUES DOMAINS | VALUES BENEFITS | TARGET GOALS |
|---|---|--|---|---|--|---|---|
| e.g., "Everything going as I had planned...house ...jobs...hay crop..." | <ol style="list-style-type: none"> 1. Money 2. Goods 3. Information 4. Love 5. Services 6. Status | <ol style="list-style-type: none"> 1. Time 2. Space 3. Energy | <ol style="list-style-type: none"> 1. Synchronizing 2. Clocking 3. Orienting 4. Bounding 5. Linking 6. Centering 7. Mobilizing 8. Fueling 9. Investing | <ol style="list-style-type: none"> 1. Physical/Security 2. Psycho-social 3. Self-actualization | <ol style="list-style-type: none"> 1. Physical/Material 2. Economic 3. Sentimental 4. Social 5. Professional 6. Intellectual 7. Moral/Political 8. Spiritual 9. Aesthetic | <ol style="list-style-type: none"> 1. Health 2. Comfort 3. Physical Security 4. Economic Security 5. Productiveness 6. Love 7. Acceptance 8. Courtesy 9. Togetherness 10. Neighborliness 11. Recognition 12. Success 13. Intelligence 14. Competence 15. Honesty 16. Fairness 17. Justice 18. Peace of Mind 19. Clear Conscience 20. Beauty 21. Symmetry | <ol style="list-style-type: none"> 1. Power 2. Affect 3. Meaning |



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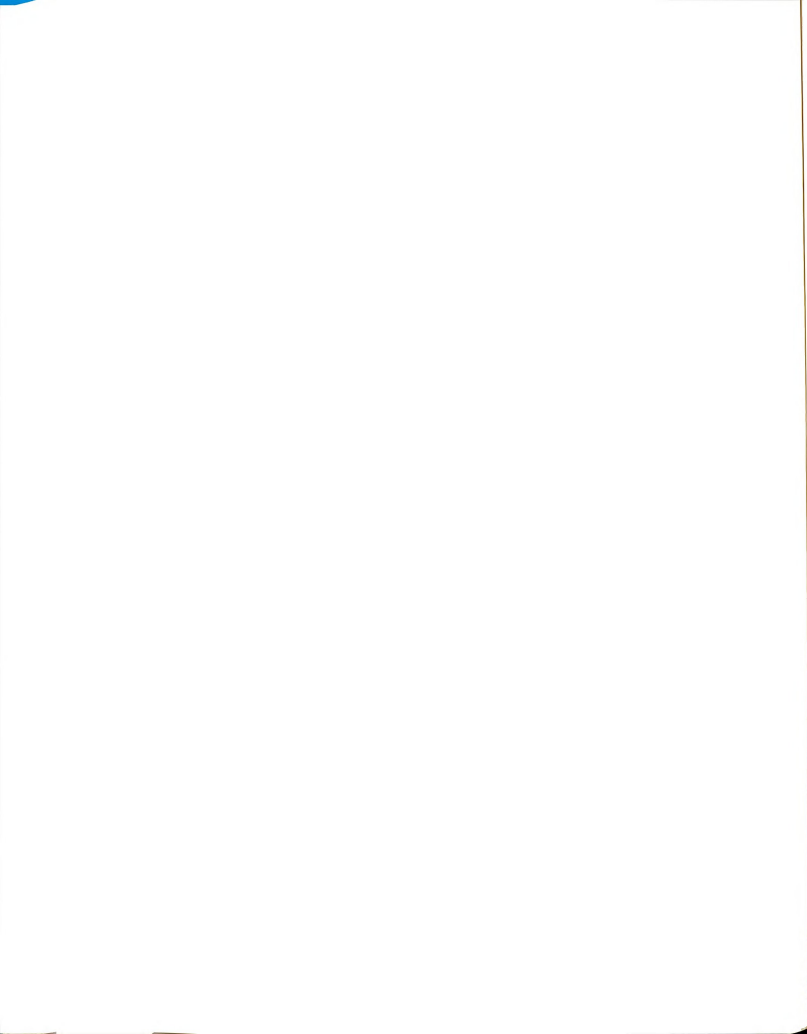
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