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**SUSTAINABLE DEVELOPMENT: PERCEPTION OF
MEMBERS OF SMALL-FARM FAMILIES**

presented by

Elena Hidalgo de Avila

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of the requirements for

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SUSTAINABLE DEVELOPMENT: PERCEPTION OF MEMBERS OF
SMALL-FARM FAMILIES, SAN JUAN, ARGENTINA.

By

Elena Hidalgo de Avila

A DISSERTATION

Submitted to

Michigan State University

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ABSTRACT

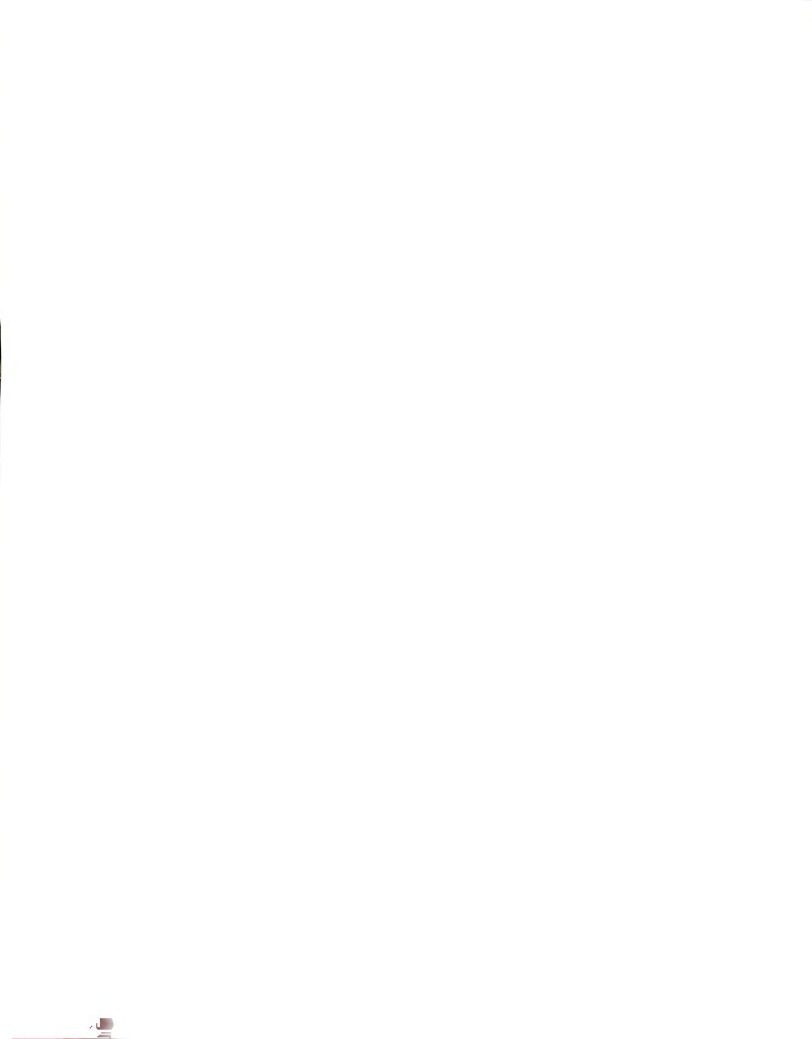
SUSTAINABLE DEVELOPMENT: PERCEPTION OF MEMBERS OF
SMALL FARM FAMILIES, SAN JUAN, ARGENTINA.

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People in families play an essential role in sustainable development. The research focus is on perceptions of sustainable development of three members of ten small-farm families in three rural communities of San Juan Province, Argentina. As participants in development programs, with some leadership responsibilities in their communities, these family members were asked questions from which their perceptions of sustainable development could be deduced. What are the concepts and terms used, and how do the issues and symbols come about?

Within a human ecological framework, an interpretive paradigm and a qualitative method (in-depth interviews) were used. Emerging categories and properties of the concept contributed toward the development of a grounded theory of sustainable development.



The ways in which these small-farm families had been affected by a severe earthquake in 1977 were revealed in all the responses about sustainability. Major categories of change, values, and human attributes perceived by men, women, and youth with their similar and distinct properties in each of the three locations emerged from the data. The human attributes of resilience, endurance, self-valorization including self-identity, self-confidence, self-esteem, and rootedness were emphasized by informants in the three areas. Instead of alluding only to the natural environment preservation, informants emphasized the human qualities of the social-cultural environment along with minimal material conditions of the human built environment. These categories are nonprofessional inputs in the conceptualization of sustainable development. The insights of rural people led to implications for theory construction, future research, and practice in extension activities.

DEDICATION

To the memory of Ruben Antonio Hidalgo, my father.

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I had the privilege of an advisory committee integrated by Drs. Linda Nelson, Margaret Bubolz, Lillian Phenice and George Axinn. They provided me with wisdom through class instruction, intellectual stimulation, encouragement of my independent thinking, assistance and friendship which has been greatly appreciated.

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1. INTRODUCTION

Sustainable development is a current goal of development programs. Families play an essential role in social and economic development. As in many other places around the world, small-farm families in San Juan, Argentina, are subjects in development programs. However, how do members of those small-farm families conceive sustainable development? What are the concepts and terms used, and how do the issues and symbols come about? Do members of unitary and cohesive groups like farm families have different perceptions?

The Problem

Sustainable development has been defined by planners and scholars from different disciplines. However, in any society one finds people holding different conceptions and having different reasons for wanting development as they conceive it, and giving it different priorities within their whole range of values and purposes. Instead of assuming that we know, can predict or agree on the criteria or the outcome of development for a given people in a given

context, this research was designed to discover what rural families conceive as sustainable development, what they want and expect to gain or lose from it. These folk perceptions of sustainable development can be compared with perspectives of the planners or with scientific conceptualizations and theories, but it is essential to recognize diverse perceptions of betterment. Those of the rural participants can be included by drawing upon their emerging categories and properties of the concept as a contribution toward a grounded theory of sustainable development.

Statement of the Problem

This research focussed on the discovery of perceptions of sustainable development of members of small-farm families who have been participants of development programs in three rural communities of San Juan Province, in central-western Argentina (see Appendix A, Maps).

Purpose

The major goals of this study were to generate propositions and hypotheses for further research as well as practical suggestions for the local Rural Extension Service, which is part of the Agricultural Experiment Station of the National Institute for Agricultural Technology (INTA).

Justification

This study of perceptions of sustainable development held by the farm family members attempted to fill a theoretical and a practical gap. A central theoretical

concern is to generate categories, properties and hypotheses from the perspective of the people who experience rural development, eliciting the participants' categories rather than testing given abstract propositions.

The practical concern is to provide a useful tool for extension agents of INTA San Juan, Argentina. To know about perceptions of farm families is important because how the concept of rural sustainable development is defined affects the form of programs which may be designed to deal with it. Cognitive perceptions become values which orient attitudes and guide individual and social actions. In a broader sense, to know about perceptions of farm families could be worthwhile for any practitioners from any other institution working in the area in the field of rural development. How various individuals and groups selectively define the problem will influence which of the many possible programs are finally selected to address it.

Conceptual Rationale

The disciplinary foci of development have limited the scope of the process, therefore, the researcher sought bases for a holistic approach as well as for the concept of sustainability.

Disciplinary Views of Development

The meaning of development has changed through time. It is a normative concept, both a process and a goal. Means and ends of development are prescribed in theories which deal with different aspects of both unilinear and cyclical development (So, 1990). In the economic literature, which is most often used in INTA, development is a perhaps inevitable, usually unilinear, movement towards a condition of maximum industrialization, modern technology, high(est) GNP, and high(est) material standards of living, the two last being popularly assumed to go together.

Philosophically, however, Wallman (1977) said development implies progress, which itself implies evolution towards some ultimate good, all of these notions being specific to particular times and places. Efforts to improve conditions in developing, undeveloped, less developed countries continue to assess that improvement quantitatively--more is good, growth is progress--and to rate all areas in terms of their shortfall from some implicit development goal, which they have failed to reach. The identification of development with economic growth is by now too discredited to call for extended refutation, however much influence the conception may still exert in national planning and in political discourse. It is natural that a determination to quantify development and measure rate of progress should be foremost among the preoccupations of

analysts and planners, but this has brought about an unfortunate predisposition to restrict the vision of development to what can be measured (UNRISD, 1980).

Human Ecological Perspective

Human ecology offers an integrative approach to development, conceiving it as systemic, interrelated and multifaceted (Nelson, 1978). Development is a multidimensional process which includes societal, attitudinal and infrastructural changes including the elimination of inequality and poverty, and increases in economic growth (Torado, 1981). It involves synergism within the system that is based on the need of individuals and is directed toward improving the quality of life (Miller, Nelson & Vaughn, 1989).

Individual humans are socialized within family units. Families together with their environments constitute ecosystems. As a part of human ecosystems, families are integrative units of interacting and interdependent persons who have at least some common goals and resources, whose members have some feeling of unity and sense of common identity within the environment (Bubolz, Eicher & Sontag, 1979). The environment of the family constitutes the life support system. In the human ecological model three different but related environments can be distinguished: natural physical-biological, human-built and social-cultural (Bubolz & Sontag, in press). These authors defined the

natural physical-biological environment (NE) as consisting of unaltered natural phenomena. Human transformations and alterations of those natural phenomena comprise the human-built environment (HBE), while the social-cultural environment (SCE) includes other humans along with their abstract cultural constructions and social and economic institutions. Within this scheme, perceptions of small-farm family members are a cultural construction and part of the social-cultural environment (see Figure 1).

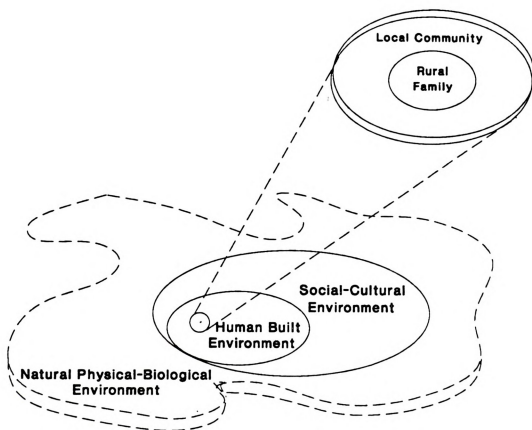


Figure 1. Rural family as a part of a human ecosystem.

The perceptions of members of small-farm families about sustainable development cannot be understood in isolation; they must be studied in relation to the interdependence of the families with the local community or microenvironment and with the total macroenvironment. Environments pose limitations and constraints as well as possibilities and opportunities (Bubolz & Sontag, in press). The family is a dynamic adaptative system which can respond, change and develop, and can act on and modify its environment. Adaptation is a continuing process in the family ecosystem; a core value underlying an ecological perspective is that of survival. It includes survival of humans as well as other living species. The family is also a goal directed system in which betterment is a value based goal.

Sustainable Development

In practical terms, there is a crisis located at the interface of the relationship between people, their environment, and their desire not only to develop their economy but also to improve the quality of their lives (Major, 1988). Especially for the rural population, it is a difficult feat to increase food production at the same time that it restores, rehabilitates, and protects the natural environment upon which farming depends (Runnalls, 1986). Runnalls might have said not only farming, but also farm families. There is a close link between poverty, environmental degradation and economic growth. The

cumulative effects of natural resource degradation have served to raise the issue of sustainable development in many countries.

Sustainability can be defined as the ability of an agroecological system to maintain productivity in the face of natural and structural hazards, such as drought or farmers' indebtedness (Conway, 1984). Alternatively, sustainable development can be defined as a process of improving the living conditions of the poor majority while avoiding the destruction of natural resources so that increases in production and improvements in living conditions can be maintained over long periods (IIED, 1982). It is increasingly clear that sustainable development means more than ecological and agricultural stability in less developed countries; it inevitably has livelihood--as a way of life--components, without which conservation objectives cannot be met (Chambers, Saxena & Shah, 1989). Sustainable development practices need to be matched to specific environmental conditions, but it is equally important that the social and economic components of household decision-making are considered part of what is sustainable (Redclift, 1986).

This study concerns sustainable rural development. Although it is a key issue of international dimensions, no research was found about folk perceptions of sustainable development in Argentina. Basically development assumes

change; if no change, there is not development (Axinn, 1978). Development is a normative phenomenon, a value based concept, a matter of perceptions. Sustainability is a time phenomenon. Therefore, the concept of sustainable rural development implies a planned change for some betterment in rural areas during a long period of time. It is the interface of three dimensions: change, values, and time (see Figure 2).

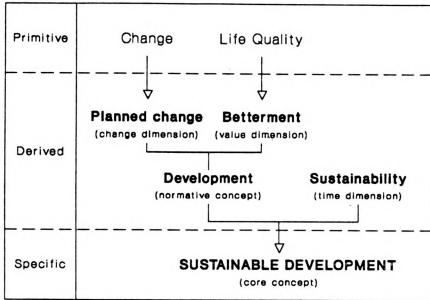


Figure 2. Formation of the concept of sustainable development by interrelation of terms at different levels.

The definition of the facets of the studied concept is built in steps upon one another and thus comes to comprise a system of interrelated concepts, but probably the best means available to explain the development of an idea is to employ

the ancient form developed by Aristotle. An Aristotelian definition consists of two parts (Chafetz, 1978). The first, called genus proximum, tells what the phenomenon in question shares with a large class of phenomena. The second part, called the genus specifica, tells what is peculiar to the phenomenon in question. The Aristotelian definition of sustainable development, therefore, is a planned change (genus proximum) for some betterment, in any geographic area, that preserves the environment and thus can be maintained over a long period of time (genus specifica).

Rural sustainable development can then be conceived as a planned change that includes attitudinal, societal and infrastructural changes: elimination of inequality and poverty, increase in economic growth directed towards improving the quality of life, and avoidance of the destruction of natural resources. Sustainable development can be perceived at any level, for example at the micro level, such as rural community, as well as at the macro level, such as a nation or continents.

Perceptions of members of small subsistence farm families could be conscious and articulated or expressed in ambivalence and inconsistency. It is worthwhile to identify both the aspects or elements which are clear and those which are confused. Folk perceptions could reflect theoretical models or suggest additional dimensions or priorities which fit the multiple constraints of ordinary life of families

with small-farms.

Assumptions

Key assumptions about participants' perceptions, the researcher's position and issues of rural development are specified.

Participants' Perceptions

In an effort to isolate perceptions of sustainable development as a significant problem for analysis, various assumptions are made.

a) It is important to distinguish between subjective perception and objective reality. Only subjective perception is the focus of this study.

b) There are different perceptions about development and different ideas about how to achieve it.

c) It is important that values, aspirations and perceptions of members of rural families participating in the processes of rural development be taken seriously, however inconsistent they appear to be, and however limited their power in the political-economic spheres.

Researcher's Position

a) Cultural diversity is a requisite for sustainable development (Avila, 1989). Therefore, the researcher assumes the validity and usefulness of indigenous cognitive perceptions and knowledge.



b) The researcher is an instrument in qualitative research (Spradley, 1979).

Rural Development

Normative, conceptual and empirical assumptions have been recognized.

In the normative domain,

a) sustainable development should be people-oriented. People should come before things and resource-poor farm families before resource-rich farm families (Korten and Klauss, 1984; Cernea, 1985; Chambers, 1987).

b) The goal of rural development should be defined by rural people (Chambers et al., 1989).

c) Local participation should be an essential condition for sustainable development.

In the conceptual domain,

d) sustainable development does not progress in a single direction or a movement towards a fixed goal, but is a process of continuous adaptation and problem-solving to maximize well-being in changing conditions (Chambers, 1987; Chambers et al., 1989; Leonard, 1989; Milbrath, 1989).

e) Causality is complex and circular, not simple and lineal (Jamieson, 1985, cited by Chambers, 1987, p. 241; Griffore & Phenice, 1988).

In the empirical domain,

f) small-farms are usually complex and diverse and small-farm families are often doing different income



producing activities at the same time. Diversity and complexity are usually greater for the resource-poor families than for resource-rich families (Chambers, 1987).

g) The rate of ecological change appears to have been accelerating, which implies changes in agriculture, livelihoods, economy and society (Chambers, 1987; Chambers et al., 1989; Leonard, 1989; Milbrath, 1989).



2. THE ECOLOGICAL SETTING AS A CONTEXT FOR RESEARCH

For this study, family ecosystem is the concept that best represents and describes the interrelationship between small-farm families and their context. In fact, the family is the primary living group and support system, and ecological consciousness about interactions and interchanges between the family and the environment are essential. The environment of the family furnishes the resources necessary for life and constitutes the life support system.

Environment is conceptualized to include three distinct but interrelated natural, human built and social-cultural components (Bubolz & Sontag, in press). Transactions between farm families and the environments are guided by the immutable laws of nature, e.g. earthquakes and drought, and the human-derived and changeable rules, e.g. allocation of resources, social customs and role expectations (Bubolz, Eicher & Sontag, 1979; Andrews, Bubolz & Paolucci, 1980; Sontag & Bubolz, 1988; Bubolz & Sontag, in press).

This research was conducted with members of small-farm families in rural communities of San Juan Province, Argentina, where the researcher has been employed since 1969. The ecological setting, which is mainly known through

employment experience, is described for the benefit of those who do not know the area. The focus is on small-farm families together with the physical features of their habitat at national, provincial, and local community levels. A brief description of a key institution and its leadership training program is included.

The Country

Looking at the national level, the Republic of Argentina is a large country occupying most of southern South America, covering a triangular continental area of 2,777,815 square kilometers (1,072,240 square miles); it is bordered on the west by Chile, on the north by Bolivia and Paraguay, and on the east by Brazil, Uruguay, and the Atlantic Ocean. Its population was 31.1 millions in 1991 (Censo, 1991). The northeastern plains have a humid subtropical climate; to the west, the climate of the Andean highlands is much drier, with semidesert and desert climates. The rain line of 500 mm divides the country into two big areas; to the east, there are the humid pampas, the most densely populated region supporting more than 75% of the country's population. The pampas, previously a prairie, have become one of the world's most productive areas of extensive agriculture, providing 90% of Argentina's exports and most of its domestic food production. Argentina is

virtually self-sufficient in almost all agricultural products. The humid pampas also account for about 80% of the nation's industrial activity and contain the Great Buenos Aires, a dynamic city of 12 million people (Censo, 1991). To the west, the arid region, with a basically agricultural economy, generates 15% of the gross national product and 6% of the industrial one. The Andean highlands contain extensive mineral deposits and rugged mountain terrain. The highest peak in the Andes is Mount Aconcagua at 6,960 m (22,835 ft) in the central part of the Argentinian Andean Range, close to where San Juan Province is situated.

The Province

San Juan's geographic area is 96,493 square kilometers (37,256 square miles) along the western border, 80% of which is covered by arid deserts and mountain terrain; the remaining 20% are valleys at 620 m, and 1,200 m and more above sea level. These are called central and Andean valleys respectively. All the valleys have good conditions for agriculture, but since water is the most scarce resource, only 10% of the land is cultivated, about 96,000 hectares or 237,037 acres (see Table 1). Sources of water for artificial irrigation are two rivers run off from the Andean Range that represent 90% of the water resource for

agricultural purposes; alluvial water deposit is an alternative resource of water procurement. Electric driven pumps provide water over critical drought periods in the central valleys.

Table 1. Cultivated Area by Valleys in San Juan Province, Argentina.

Valleys	Cultivated area	Percent
Central	80,500	83.5
High Mountain	9,200	9.5
Jachal	5,800	6.0
Valle Fertil	740	0.5
Total	96,240	99.5

Source: INTA San Juan Agr. Exp. Sta. Report. 1986.

The population of San Juan Province is 529,920 inhabitants (Censo, 1991). Few people live outside the valleys without irrigation systems. However, some families do live in remote dry areas, isolated in puestos (small domestic settlements) or in distant small communities. Their economic activity is primitive, precarious and artisanal. With this productive base, the living conditions of the desert families are more depressed than those in the irrigated valleys.

The Andean Province of San Juan is a seismically active area. The most recent and the biggest earthquakes occurred in January 1944 and November 1977; they destroyed the cities of San Juan and Caucete respectively.

Four seasons and different agroclimates can be found in the valleys. The annual average temperature is 17.2 C (63 F) with wide variations: 46.3 C maximum (115 F) and -8.5 C minimum absolute (17 F). The average relative humidity is low, 30-40%, and the annual average of rainfall is only 93 cubic mm.

Artificially irrigated agriculture is the base of the local economy. Annual and perennial crops are cultivated in oases. The prevailing perennial crop is grapes; 65% of the cultivated agricultural land, all in the central valleys, is devoted to vineyard, and then, olives (7%) and fruits (4%). The remaining cultivated land is used for annual crops: cereals and fodder (15%) and vegetables (8%). This percent distribution was almost constant between 1965 and 1980. Viticulture represents 78% of San Juan's agricultural production value. The local economy has been affected by the low price for grapes and wines, the commercialization constraints, and by the distance to the national market in the humid pampas. The most alarming related social phenomenon has been the rural migration. Migration intensity is not the same in all the valleys, but is greater in the distances farther from the central valleys of Tulum in which San Juan city, the Province's capital, is located. Its suburban area is growing because of the local migration from all other valleys (Censo, 1991). Migration is an effect of the combined impact of negative capitalization and

the current economic crisis (Allub, 1990).

Wherever the movement of energy, goods, and information is important, so is the geographic distance and relative location of the studied area. Currently, San Juan Province is physically arid and also structurally isolated from the other regions. Considering the human environment, the impact of the development of the humid pampas more than the arid region has affected San Juan Province; the gap has been increased and strengthened over time. Another feature that has affected San Juan Province is the macroenvironment economic relationships. Foreign debt, fed by high interest rates and adverse terms of international trade, is strangling the national and local economies in Argentina (Poneman, 1987). Inequality, poverty, rural migration, and unemployment can be seen. The impact of the aridity on the people is another feature; the idea that land is scarce because water is scarce is part of the culture and affects the individual's cognitive orientation (Triviño, 1977).

The Rural Communities

From the human ecological perspective, communities are conceptualized as shared microenvironments with definite territorial boundaries and common resources, connected with larger systems. "Rural communities as ecosystems, are aggregations of associated species...together with the

physical features of their habitat" (Dice, 1955, p. 2).

Note that the people, other organisms, and their environments, together make up the ecosystem of each rural community.

San Juan's rural communities are found in a diversity of physical ecological environments: from west to east, high mountain, central valleys, and desert. High mountain rural communities are characterized by the farther distances to San Juan city. In spite of their excellent natural conditions for human life and agriculture, they lament a long-time stagnation process and intensive migration. Most of the rural communities are in the central valleys, where artificially irrigated agricultural production is the base of the local economy. Sixty three percent of the agricultural land and most of the rural labor force are devoted to vineyards, introduced by the Spanish immigrants around 1880; grape wines are the major industrial product offering seasonal work opportunities. The remaining agricultural resources are devoted to vegetables, fruits, olives, and alfalfa seed production. To the east, desert communities suffer the biggest impact of aridity revealing the adjustment capacity and self-sufficiency of the desert families. People in those small communities have the most limited resources; they subsist by raising goats and sheep, doing handicrafts, extracting minerals on a small scale and preparing charcoal. They have been surviving for

generations in their own environment; however, the youth migration is significant. The youth look for other sources of income as migrant workers in the central valleys.

The Institution

The National Institute of Agricultural Technology (INTA) was created in 1956, by national law, to promote and strengthen agricultural research and extension, to accelerate the spread of technology, and to improve the agricultural enterprise and rural life. Formally, it is a technical institution which is financially supported by a specific tax over agricultural exports.

Agricultural Extension, as defined by FAO is "a service or system which assists farm people, through educational procedures, in improving farming methods and techniques, increasing production, efficiency and income, bettering their level of living, and lifting the social and educational standards of rural life" (Axinn, 1988, p. 48).

Twenty eight professionals (fifteen researchers and thirteen extensionists) worked full time in the San Juan Experiment Station and seven Extension Agencies in 1990. Priority programs were agriculture, natural resources, crop diversification, and rural community development.

San Juan's physical environment presents heterogeneous farming areas and the rural land stratification tends to be

a bi-modal distribution. In terms of human resources, Extension's clientele have contrasting characteristics and skills; the bigger farmers, in the central valleys, use modern technology, banking systems and management techniques. Farming systems of industrial crops (grapes, fruits, seeds) have a high technical level; in terms of farming equipment, 92% of farms over 5 hectares have a tractor, and 7,000 electric driven pumps between 35 m and 450 m of depth provide alternative underground water in the central valleys. However, farmers with limited land specialize in labor intensive agriculture. Their farming methods are labor intensive transmitted as cultural practices of European immigrants. Those with the smallest farms, characterized by a shortage of land and no capital, are at a disadvantage in the modern market system, but their culture provides them with techniques and attitudes to survive droughts, market variations, earthquakes, inflation, and so on. They live on the farm unlike bigger producers who usually live in the capital city.

Farmers in the central valleys with more land frequently demand INTA's technical assistance. They are willing to try innovations and change according to the marketing perspectives. The smaller producers are more cautious about experimenting with irreplaceable materials and money. In spite of the predominance of smaller producers, the agricultural extensionists have not been able

to assist them proportionately because of the pressure of the rich-resource farmers who have both the knowledge and the means to apply the technology being diffused (Roling, 1982).

As a part of the Extension Service, rural family life agents, with preparation as rural primary school teachers, social workers, and sociologists, were a major supplier of educational programs in rural communities working with female groups in nutrition, health, housing, and community development programs called Rural Home (Hogar Rural). This extension staff initiated a long-term training program of Rural Home leadership in 1976, which continued to 1986 on a progressive basis. As Edwards and Jones (1977) emphasized, the process by which leadership develops is typically a gradual one. Supported by the Rural Extension Service of INTA as a regional plan, the training program content included technical, human, and educational issues. It alternated periods of study of theoretical concerns followed by rural community practice and reflexive analysis.

Community problem solving and opportunities for family involvement helped those homemakers to develop community leadership based on actions that were readily visible to community members. Assembling data and opinions about community problems, resources, and goals, these community leaders shaped local development by initiating, mobilizing, and coordinating conscious actions to cope with basic or

fundamental needs.

These human resources represent an active intermediate level that offered strong support in educational activities as demonstrators or diffusers of new ideas and procedures at community level. In San Juan, more than 100 community leaders, mostly females from homemakers' groups, have been provided with knowledge, techniques, and opportunities for personal involvement in local projects of community development, nonformal education, and health. Homemakers' groups are linked at local, regional, and national levels which provide additional opportunities for leadership.

The researcher actively participated as an extension agent in the leadership training program. These employment experiences combined with a growing awareness that development theories were changing led to the formulation of the desire to discover what the rural people think about development.

3. METHODOLOGY

The term methodology applies to how the research is conducted, based on assumptions, researcher's interests, and purposes. Because no other study was found that had explored the perception of small-farm family members about rural sustainable development in Argentina, the topic and purposes of this research dictated an interpretive paradigm and a qualitative method of study. Later, the qualitative data in this study could be used to complement a quantitative approach by generating theoretical statements as a stimulus for further research. The following sections are: research approach, which includes theoretical discussions about paradigms and methods; qualitative research design; and research strategies, which explain how the research was conducted.

Research Approach

Modes or paradigms of social research are positivistic, interpretive, and critical (Paolucci & Bubolz, 1980; Bubolz, 1985; Bubolz & Sontag, in press). They are based on different assumptions and propose different aims, modes of

rationality, nature of knowledge, and research methods. The theoretical discussion is about paradigm and method; the appropriate focus for this research approach is on the interpretive paradigm rather than positivism, and on the qualitative method rather than the quantitative method.

Paradigms

In the social sciences, the two major theoretical perspectives or paradigms are positivism and interpretivism, both with roots in physical and biological sciences. The first, positivism, traces its social science origin from the theorists of the nineteenth and early twentieth centuries. Positivism seeks the facts or causes of social phenomena apart from the subjective states of individuals (Taylor & Bogdan, 1984). The second major theoretical perspective or paradigm, interpretativism, is committed to understanding social phenomena from the actor's own perspective. The interpretive paradigm includes research that is termed ethnographic, hermeneutic, interactive, naturalistic, or phenomenological. All these types of research are interpretive in that they seek an explanation for social or cultural events based upon the perspectives and experiences of the people being studied. In this way, interpretive research is "grounded" in the everyday lives of people (Glaser & Strauss, 1967). In doing so, interpretivists seek to make sense of an object of study, "to bring to light an underlying coherence" (Noblit & Hare, 1988, p. 12).

Since positivists and interpretivists take on different kinds of problems and seek different kinds of answers, their research demands different methodologies. Adopting a natural science model of research, the positivist paradigm quantifies social events and assesses the statistical relationship between variables in the service of constructing an abstract theory. Positivist studies seek cause-and-effect laws that are sufficiently generalizable to ensure that a knowledge of prior events enables a reasonable prediction of subsequent events. Once there is enough knowledge, the world will be predictable, if not controllable. The interpretivist seeks understanding through qualitative methods which strive for comprehension, on a personal level, of the motives and beliefs behind people's actions (Noblit & Hare, 1988).

Methods

Qualitative and quantitative research methods represent two very different sets of intellectual habits and frames of mind. In the broadest sense, qualitative methodology refers to the research that produces descriptive data: people's own written or spoken words and observable behavior. More than a set of data gathering techniques, qualitative methodology, like quantitative methodology, is a way of approaching the empirical world. This way of approaching is characterized by Taylor and Bogdan (1984, p. 5-8) whose eight selected verbatim citations appear in bold.

1. **Qualitative research is inductive.** Researchers develop concepts, insights, and understanding from patterns in data, rather than collecting data to assess preconceived models, hypotheses, or theories. In qualitative studies, researchers follow a flexible research design beginning with only generally formulated research questions.

2. **In qualitative methodology the researcher looks at settings and people holistically; people, settings, or groups are not reduced to variables, but are viewed as a whole.** The qualitative researcher studies people in the context of their past and situations in which they find themselves. The human ecological perspective is a holistic approach.

3. **Qualitative researchers are sensitive to their effects on the people they study.** Qualitative research has been described as naturalistic. That is, researchers interact with informants in a natural and unobtrusive manner. In in-depth interviewing they model their interviews after a normal conversation, rather than a formal question and answer exchange. Although qualitative researchers cannot eliminate their effects on the people they study, they attempt to minimize or control those effects or at least understand them when they interpret their data.

4. **Qualitative researchers try to understand people from their own frame of reference.** Qualitative researchers

empathize and identify with the people they study in order to understand how they see things.

5. The qualitative researcher suspends, or sets aside, his or her own beliefs, perspectives, and predispositions. The qualitative researcher views things as though they were happening for the first time, and nothing is taken for granted.

6. For the qualitative researcher, all perspectives are valuable. The researcher seeks a detailed understanding of other people's perspectives, not necessarily truth or morality.

7. Qualitative methods are humanistic. When people are studied qualitatively, the researcher gets to know them personally, to learn about the inner lives of the people.

8. Qualitative researchers emphasize validity in their research. By observing people in their everyday lives, listening to them talk about what is on their minds, and looking at the documents they produce, the qualitative researcher obtains first-hand knowledge of social life unfiltered through concepts, operational definitions, and rating scales. Whereas qualitative researchers emphasize validity, quantitative researchers emphasize reliability and replicability. This is not to say that qualitative researchers are unconcerned about the accuracy of their data. A qualitative study is a piece of systematic research conducted with demanding, though not necessarily



standardized procedures (Goetz & LeCompte, 1984).

Perhaps the most striking difference between the methods is the way in which each tradition treats its analytic categories. The quantitative goal is to isolate and define categories as precisely as possible before the study is undertaken and then to determine the relationship between them. The qualitative goal, on the other hand, is often to isolate and define categories during the process of research. Well defined categories are the means of quantitative research and they are the object of qualitative research (McCracken, 1988).

Glaser and Strauss (1967) relate qualitative methods with theory development. The "grounded theory" approach is a method for discovering theories, concepts, hypotheses, and propositions directly from data, rather than from a priori assumptions, other research, or existing theoretical frameworks. According to Glaser and Strauss, social scientists have overemphasized testing and verifying theories and neglected the more important activity of generating theory.

Qualitative Research Design

Two major procedures of grounded theory methodology for generating theory were proposed by Glaser and Strauss (1967). The first is a "constant comparison method" in

which the researcher simultaneously codes and analyses data in order to develop concepts by continually comparing incidents in the data. The second procedure is "theoretical sampling" in which the researcher selects cases or informants based on their potential for helping to expand the concept or the theory being developed.

Constant Comparison Process

Constant comparison is a continuous process used by the researcher for developing and identifying properties of the studied concept. The process is a concept-indicator model in which empirical data are indicators of a concept derived from them by the researcher. It is a process of conceptual coding and discovery of relationships. Graphically, (see Figure 3) it can be represented, as an iterative, ascending, progressive process (Bubolz, 1989).

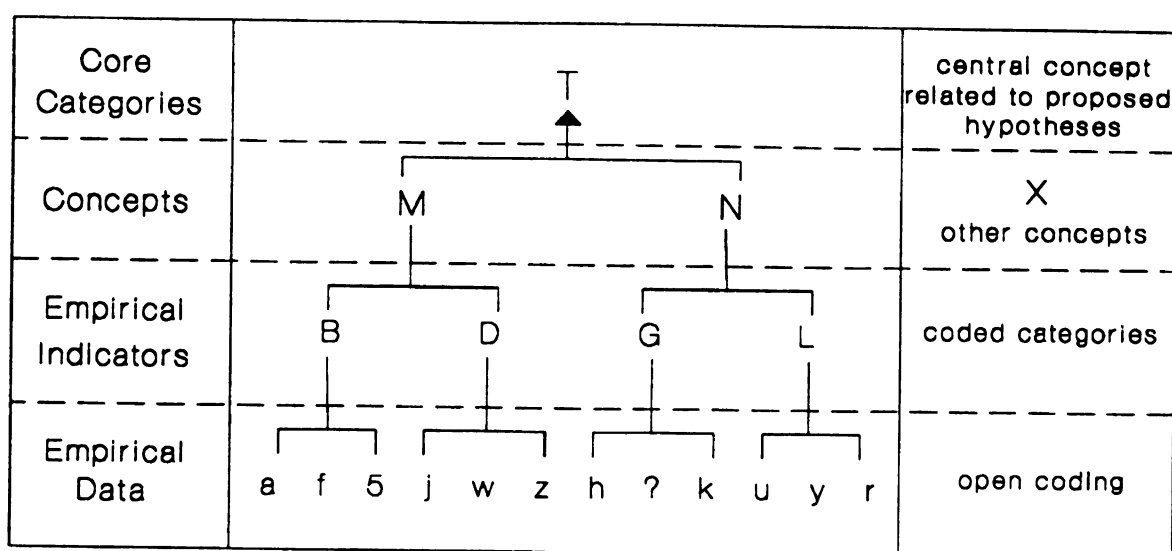


Figure 3: Grounded theory procedure for theoretical elaboration.

Theoretical elaboration can be done with different data sources, either qualitative or quantitative. The process is described by Glaser and Strauss (1967, p. 105) in four stages: comparing applicable incidents in each category, integrating categories and properties, defining, and writing theory.

The first step in grounded theory is to obtain the data from the empirical world. "The analysis starts with coding each incident in the data into as many categories of analysis as possible, as categories emerge or as data emerge that fit an existing category" (Glaser & Strauss, 1967, p. 105). By continually comparing specific incidents in the data, the researcher refines these concepts, identifies their properties, explores their relationships to one another, and integrates them into a coherent theory. In the process of comparison of incidents and comparison of codes--concepts--to incidents, codes of higher levels of abstraction are developed.

Integration of the theory takes place at the many levels of generality that emerge. It must be emphasized that integration of the theory is best when it emerges, like concepts.... The truly emergent integrating framework, which encompasses the fullest possible diversity of categories and properties, becomes an open-ended scheme, hardly subject to being redesigned (Glaser & Strauss, 1967, p. 41).

The integrating scheme is delineated through the constant comparisons. Initially, grounded theory uses inductive reasoning, from the particular to the general, but



it can move to the deductive mode, when concepts and hypotheses are applied to new data (See Figure 4. Source: Modified from Bubolz, 1989). This is not only an iterative, but also a cyclical and generative research process.

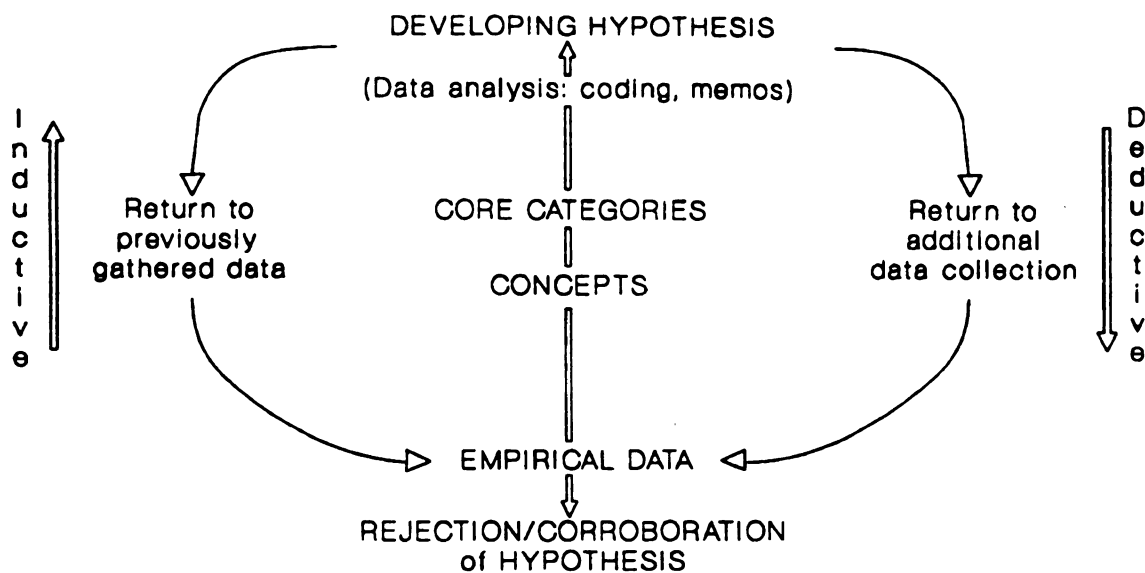


Figure 4: Grounded theory procedure for generating theory: inductive and deductive reasoning.

Theoretical Sampling

Samples in qualitative research are usually small, tend to be purposive, and can change because research is conducted progressively and iteratively. Even in a highly inductive mode, the qualitative field researcher usually starts with some general research questions which typically fall into one of two categories: substantive and theoretical

or formal; these are questions related to in-depth understanding of the particular setting studied and those related to general theoretical insights. Sampling is driven in large part by the research questions which indicate the foci and boundaries within which samples are selected. Sampling involves not only decisions about which people to observe or interview, but also about settings, events, and social processes. It is tied also with issues of generalizability (Miles & Huberman, 1984, p. 36).

Generalizability to a population, the major purpose of random samples, is not as crucial in qualitative research as validity of descriptions, concepts and hypotheses. One may learn a great deal about issues of central importance to the purpose of the research by selecting information-rich cases for study in depth as one way of sampling qualitatively, thus the term "purposeful" sample. There are several different strategies for purposeful sampling. According to Patton (1987) some strategies are extreme or deviant case sampling, maximum variation sampling, homogeneous samples, typical case sampling, critical case sampling, snowball or chain sampling, criterion sampling, confirmatory or disconfirming cases, sampling politically important cases, and convenience sampling.

Glaser and Strauss (1967) named "theoretical" sampling as a procedure whereby researchers consciously select additional cases to be studied according to the potential

for developing new insights or expanding and refining those already gained. This theoretical sampling is an active, purposeful, searching way of collecting data, providing constant direction to research. Once additional observations do not yield additional insights, the "theoretical saturation" point, in the words of Glaser and Strauss, has been reached. Arnold (1970 cited by Brewer & Hunter, 1989, p. 120) has suggested a somewhat different approach which he calls "dimensional" sampling. This approach combines the survey researcher's concern about precision in defining units and selecting samples prior to data collection with the qualitative researcher's concern about gathering rich data on a few, selected, comparative cases.

Sampling involves decisions about settings. Although all settings are intrinsically interesting and raise important theoretical research questions, "the ideal research setting is one in which the observer obtains easy access, establishes immediate rapport with informants, and gathers data directly related to the research interests" (Taylor & Bogdan, 1984, p. 19).

Research Strategies

Presented as research approach and qualitative research design, the researcher has attempted to discuss theoretical

dimensions of both the interpretive paradigm and qualitative methods, and to describe methodological procedures of grounded theory. According to research interests and that theoretical framework, this section of research strategies explains how the research was conducted, given the specifics of the methodology. It includes approaching the fieldwork, selecting settings and informants, collecting data, and working with data.

Approaching the Fieldwork

The researcher is a human instrument. "Relying on all its senses, thoughts, and feelings, the human instrument is a most sensitive and perceptive data gathering tool" (Fetterman, 1989, p. 41). To be explicit, the researcher assumed a holistic perspective, the recognition of intra and intercultural diversity, respect and recognition of the participants' perspectives, and a nonjudgmental orientation in this research.

The holistic perspective demands a great deal of time in the field to gather the many kinds of data that together create a picture of the social whole. The long-term relationship with the informants, families, and communities, along with human ecological conceptual guidelines, led the researcher to the holistic orientation for contextualizing data.

Neither groups like families nor communities are completely homogeneous. The inter and intracultural

diversity among families and communities selected for this study is recognized. The researcher assumes the recognition and acceptance of multiple perceptions about rural sustainable development, in spite of the fact that the participants' perceptions may not conform to an objective reality. This is an attempt at scientific analysis of the insiders' or locals' perspective. A nonjudgmental orientation required the researcher to suspend personal valuation and also to recognize social identity and cultural diversity. Approaching the fieldwork in this manner increases the possibility of the validity and usefulness of the collected data.

Selection and Descriptions of Settings and Informants

This section includes the description of the selection procedure as well as the description of the settings and informants actually selected.

Selection procedure. A theoretical, nonprobability sample was selected. The procedure used by the researcher was a combined approach called dimensional sampling which was suggested by Arnold (1970, cited by Brewer & Hunter, 1989). This was done in order to get an exhaustive, theoretically representative sample. Applying this sampling strategy, the researcher first selected the salient theoretical dimensions of the study and then used these to construct an attribute list that included family type, composition, principal activity, leadership role in the

local community, and community type and location to define a theoretical sampling frame or universe. In other words, the researcher, according to the research question, looked only at some actors in some contexts dealing with some issues.

For this study, rural leaders or key actors with farm family members of two or three generations living at home, in rural communities located at different distances from the urban centers were the attributes of potential informants. Other factors considered important like established rapport and employment related resources available to the researcher were also evaluated.

Following the recommendation of Taylor and Bogdan (1984, p. 19) with respect to an ideal setting, three communities in the central valley of Tulum, part of the researcher's working area in the Rural Extension Service since 1970, were selected as socio-spatial units for this research. Two of them are agricultural rural communities; both are stable communities with social and territorial identity and some commonly felt sense of place. They are located at different distances from and with relative integration to the cities. A third spacial unit, although not included in the research proposal, was selected for two reasons, one practical and the other methodological.

The practical reason was that many rural families moved to the urbanized area because of housing availability while maintaining their agricultural rural work. Due to the

increasing migration of rural people to urbanized areas, it was assumed that the perception of these urbanized families could make a contribution to this research. The methodological reason was triangulation. By drawing on a third type and source of data the researcher could gain a deeper and clearer understanding of the research topic.

Once the communities were selected, one rural and close to the urban area, another rural and distant from the urban area, and a third urbanized area with rural immigrants, then the researcher conducted the selection of informants. For selecting information-rich participants, the criterion was to select only families with at least one member playing a leadership role in the local community. The criterion for determining leadership included personal involvement in local projects of community development which was usually accompanied by relatively long residence in the area. The researcher assumed these characteristics would provide deep knowledge and understanding of the setting. The leaders were initially chosen from among those rural home participants whom the researcher had helped to orient, although it became evident that other members of their families also held leadership roles.

Ideally, qualitative researchers develop close and open relationships with informants or participants. Rapport and trust come slowly, but close relationships with families in these communities had already been cultivated by the

researcher. Some informants can be called key actors, a term used by Fetterman (1989) referring to individuals in the social group under study who are formal or informal leaders, who generally answer questions in a comprehensive fashion, with explanation about the larger picture, conversational tangents, richness and texture.

Ten families with members who fulfilled the selection criteria were found in the three selected areas. All the leaders had spouses and at least one adolescent or young adult child at home; if more than one child over 13 lived at home, the oldest was chosen. Some leaders also had a parent or parent-in-law available. All of them agreed to be participants in the study. During July and August of 1990, the research settings were selected and informants gave their agreement for participation (see Appendix B for consent procedure).

Description of settings. Although major ecological and human factors are indicated, the specific communities have not been named, as part of the effort to protect the privacy rights of the participants. The rural community close to the urban area is 7 kilometers away from the nearest urban area, the county seat. The distinctive feature of this community is aridity. It lacks potable drinking water. The irrigation water runs along a paved canal that bisects the rural neighborhood. Most of its residents worked in the fields as rural workers on the large surrounding farms. The

adult family members are skilled in vineyard cultivation. It is a poor community formed by nuclear families, living in substandard or temporary housing located at the base of a mountain. The mountain is covered by minimal vegetation; in this arid environment people find firewood especially in times of poverty. The 50 families average 5.5 members. There is an elementary school, a post office, and bus service twice a day to the urban center. The most common transportation resource is the bicycle.

The rural community distant from the urban area is located 26 kilometers from the urban area. Most of its residents are small-farm owners. This is a traditionally agricultural area surrounded by cultivable land. A paved road traverses the community. The houses are standard constructions made of brick and are better than in the community close to the urban area because the buildings are permanent rather than temporary constructions. There is an elementary school, a post office, and frequent bus service. A private winery is the only industry in the area. The 55 families average 4.5 members, the majority of them descended from Spanish immigrants.

The urbanized area was planned as a residential sector that encircles a small city which is a county seat; collective housing projects called barrios (neighborhoods) offered the opportunity of a new seismic resistant house for families which were victims of the earthquake in 1977.



Since the housing projects with all facilities, such as potable water provision, electricity, market, health and recreation services, were located in the city, a wave of migrants from the rural areas to the urban center was produced.

Description of Informants. In the three spatial units, ten families were found with the specified family requirements. Ten female leaders were found who attended the leadership training program during 1976-1986, who in 1990 were active as informal community leaders or key actors. Eight spouses and four younger members also identified themselves as playing a leadership role in the local community (see Appendix C for family data).

A total of 31 informants, members of the 10 families, were participants in this study; both parents, an adolescent or young adult living at home, and one grandmother, were able to participate. Nobody who was invited refused to participate. On the contrary, many commented that they appreciated the opportunity to express their own ideas.

Collecting Data

When the methodology was tested in September 1990 with a family with similar structure which did not live in any of the selected communities, a few minor changes were suggested. The one of most utility was the preferable order for the interviews with family members, starting with the person with whom the researcher had the most rapport, which

was usually the adult female.

Information from local officials of the Rural Health Service--data actualized three times yearly at the household level--provided background information on the setting. Between September and December 1990, the researcher visited the homes of those families which met the criteria and had given consent to participate. Usually the researcher was invited to have lunch, or drink mate (a kind of tea, a traditional beverage usually served in a gourd and sipped through a silver straw) with informants. This contact strengthened long-term relationships with them, in addition to enabling the researcher to talk with them informally and learn about their perspectives, perceptions, and lives. Background information on each family was collected through a genogram, including family composition, sex, age, occupation, ethnic background, religion, formal education, and general health as well as recent changes.

After the initial conversation, an individual interview was conducted with each selected family member, when possible, in a private space like the kitchen or living room. In families with limited housing space, the researcher made arrangements considering family members' schedules and used the researcher's office in three cases. Some scheduled interviews were postponed when visitors or other family members would be spectators or disturb the results. Since the interviews were made in places familiar



and comfortable for the participants, the interviews were conducted in an open conversational style in keeping with the qualitative methodology. The use of the tape recorder for these interviews was accepted by all participants.

The interview consisted primarily of a central core followed by optional questions according to the initial responses. A set of questions for the interview was not followed rigidly but was a useful guide (see Appendix D).

The introductory question was preceded by the researcher sharing the experience of study abroad and saying that on many occasions she was asked to describe her living place to an international audience. Immediately the question of "How would you describe this place to someone who has never been here and wanted to know what it was like to be here?" let the interview begin easily.

No question was made directly nor specifically about the central concept of sustainability or sustainable development. Although these terms are in use professionally in Argentina, it was not known whether or not they really are in use in the rural areas. Therefore, they were not used in order to avoid the possible introduction of a new term thus creating a bias or contamination of the data. Instead, the conversation was about what they know and see in the community and their family as they were asked to do in the original invitation to participate. During the interviews, no participant mentioned terms like development,

sustainability, or sustainable development, therefore, no occasion for additional questions about these terms appeared.

As expected, informants were completely open. Several reacted emotionally to the point that tears appeared in their eyes: one man when remembering a public recognition for their family, two others, referring to their attachment to their place and land; one woman remembering their son's participation in the Falkland Islands war, another the earthquake when their son died, and a third relating a childhood sad event; two youth when talking about the probability that they will have to leave their home and friends soon because they need to find a job.

Working with Data

The researcher was concerned with developing the concept of sustainable development in the people's own terms. The researcher collected, transcribed, coded, and analyzed the data. The intensive inductive analysis of data started in the first week of 1991 with the transcripts of tapes, coding, theoretical and methodological memos using the constant comparison analysis as it was described, and the analysis continued throughout the writing stage.

The informants were identified by letters A to J to represent the family to which they belong. Letters A to D indicate families in the urbanized area, E to G those in the rural community near to urban area, and H to J those in the

distant community. Family member informants were identified by the numbers 1 for youth, 2 for wives, 3 for husbands, and 4 for the grandmother. Thus, C2 indicates the wife in one family from the urbanized area.

One important lesson from experience is about the quality of tapes and recorder: the lower the quality the more time was needed for transcriptions. Another difficult experience was to translate literally, conserving as much as possible the style, rhythm, tone, emphasis and probable punctuation of the original oral conversation to a foreign written language.

Inductive data analysis is a dynamic and creative process which occurred during each step of the research. Patterns emerge out of the data. Through analysis, the researcher looked for natural variation in the data, for convergent data and for divergent data. Insights were grounded in and developed from the data themselves. The researcher also drew on the first-hand experience with settings, informants, and documents to make sense out of the data. Recognizing emerging patterns by examining them in as many ways as possible, identifying themes and developing concepts, is a gradual process. It is a discovery process by combining insight and intuition with an intimate familiarity with the data. According to Taylor and Bodgan (1984), there is no formula for identifying themes and developing concepts, but their suggestions follow. First of

all, collect all field notes, transcripts, documents, and other materials and read through them carefully. Read and reread your data prior to the time to engage in intensive analysis. Keep track of themes, interpretations, and ideas. Write memos to note themes and record any important idea or interpretation. Another author (Charmaz, 1983, cited by Taylor & Bodgan, 1984) described the same process as one of writing, sorting, and integrating memos for developing grounded theories. Spradley (1979) used worksheets, lists, charts, and diagrams to discover underlying patterns. The construction of typologies or classification schemes was a useful aid in identifying themes and developing concepts.

In this study, the researcher followed the informants' own perspectives and ideas. Common sense criteria like gender, age and place of residence were used in order to make comparisons and distinctions between perspectives. The data, the emerging graphics which led the researcher to reexamine the theoretical concepts, and the continued exploration of literature nourished each other and provoked additional insights.

The next stage was to develop concepts and theoretical propositions, moving from description to interpretation and theory. In the words of Taylor and Bodgan (1984, p. 133) "developing concepts is an intuitive process. It can be learned, but not formally taught." Words and phrases in the informants' own vocabularies that capture the meaning of

what they say or do are referred to as **concrete** concepts. They take their meaning solely from the culture studied and not from the scientific definition. They help a researcher's attempt to gain a deeper understanding and continually refined interpretations of what has been studied.

Always trying to remain grounded in the data, the researcher interprets and reorganizes the data to form concepts to increasing degrees of abstraction in an effort to contribute to an emerging theory. The resulting classification of the informants' perspectives dictated a nontraditional style of presentation of results in several chapters about perceived changes, emerging values and human attributes.

4. PERCEIVED CHANGES

With respect to the place where they live, the informants expressed a variety of perceptions of changes. Although some did not perceive any change at the beginning of the interviews, everyone recognized some changes by the time the interviews were completed. Some perceived few changes, while others perceived many changes in the place where they lived. Regardless of the quantity of changes perceived, it was possible to note variety in the intensity of the changes from slight to substantial. The direction of perceived changes varied between positive, or improving, ameliorating changes, and negative, or, worsening, deteriorating changes (see Table 2).

Informants described changes in the natural, human social-cultural, and human built environments. There are similarities in the perceptions of informants who share the microenvironment of their local community; however, there are some differences among the residents of the three areas studied. Changes perceived in the urbanized area are presented first, followed by changes perceived in the rural community close to the urban area and in the rural community distant from the urban area.



Table 2. Qualities of Changes Perceived in the Local Ecosystems by Informants in Three Communities, San Juan, Argentina.

Qualities of change	Urbanized area	Close rural community	Distant rural community
Existence	Many changes PROGRESS	No change STAGNATION Few changes	WORSENING Stagnation Few changes
Intensity	Substantial	Slight	Slight
Direction	POSITIVE negative	NEGATIVE positive	NEGATIVE positive

Those perceived changes in capital letters were mentioned first, and with more emphasis and frequency, by most of the informants as documented in the tapes.

Urbanized Area

All informants perceived that the place where they live had changed. These changes were generated by the devastation and desolation produced by an earthquake on November 17, 1977 and the posterior reconstruction.

(The urban area) changed; the earthquake of '77 produced this agglomeration of people, this modernization. (B1)

Yes, it changed (referring to the urban area). I do not know if it is for disgrace or for luck. The earthquake that happened in '77 in this area punished it so much that there are still traces that cannot be erased yet; I see it in the semi-destroyed houses, in the solitary walls, in the fractured highways. But I find a (place) more vigorous, with more commerce, with more working opportunities for the people. Because the earthquake destroyed everything, destroyed properties, houses, there were many people that

left. We came to (the urbanized area). (D3)

With the earthquake, the people moved to the (city) center. After some time, the new housing was ready and we found that there are no sources of work. (B3)

In relation to the direction of the changes, the informants perceived a diversity of effects and a need for personal and familial adaptation to urban life, although they maintain links to the rural areas as a source of work.

Overall, there are favorable changes, others that hurt. (C3)

One is adapting to the life's circumstances; changing, one has to change; we have to adapt. It is neither a radical nor a temporary change; it is a change that one is feeling, is touching. (A3)

Some of the perceived personal and community changes are related to the human built environment indicating directions of changes.

This is my house, my first (own) house. I do not live in a borrowed one, but I miss the country. (B2)

We have more help. (Referring to the proximity to health services). (A2)

There are shopping passages that we did not have before in the commercial area, the illumination; now it looks very beautiful and makes the city important, many restaurants, more stores, fashion stores, jewelry. In the last four years there was a change. (C2)

There is not enough money to make many changes. There are projects that are never begun. There are some improvements - the central avenue was restored, things like that, (a local) radio station, but important changes, no, not yet. (B1)

(The urban area) has progressed in housing, but on the other side has attracted the people from rural areas and crowded them in the center of the

county, and at the same time people need to walk 4 or 5 kilometers to go to their jobs. Another important change is in the commercial section: more intensity, more variety, more money turnover. Another change is in transportation. The circuit (local connection between communities and the center of the county) brings people to the center to purchase groceries, to use health services (and) to the civic center, thus there is a more intense complementarity between the rural and the urban area. Many of those who lived in rural areas obtained housing in the city by lottery or by administered loans. Change for betterment, but people had to go elsewhere to look for work because here there is none. At the school level, a wave of new students came to the urban schools which do not have enough capacity, classes are offered by shifts, students are transferred to nearby schools, they are taken by bus. (C3)

This was reinforced by a youth (A1) who mentioned the perceived change of "bus service for school" (for older youth and adults who are trying to complete elementary or secondary schools). Other personal and community changes perceived by informants refer to the social environment.

In my family, my youngest son (18 years old, computer student) thinks in another way, (like) another (social) class. (This) makes a change in his studies and in his thinking. There is a tendency to increase (referring to social class). Computation is a change. (Careers like) construction, electricity, have always existed in (the urban area). (C2)

Seems to me that we are going backwards because the people don't like to work. I don't know. Everyone has gone from the countryside. Yes, there is a change, but who will work the fields? (C2)

At the beginning the people didn't trust each other; they didn't know each other. (B2)

People have changed. They know each other. (D3)

To bring people together is the most important. The people of the neighborhood admire us (women's

sub-committee of the neighborhood group). (To the meeting) a huge number of women come. That is what's wonderful about this neighborhood. I say that the women are better than the men. They congratulate us from all sides. This is the best organized neighborhood group in (the urbanized area). (A2)

Inevitably comparison with the previous life arises, comparison between rural and urban life.

In the countryside people live in families. I used to work side by side with my husband, because he was a contracted worker (in the vineyard); he pruned and I tied; he plowed, I took out the limbs; with my husband and children we played by throwing dirt (at each other) in the field, to catch hares, (to watch for) birds, bird nests. We shared as a family all day, very happy. In the country people live as a family...the work wasn't any trouble, neither was the house. But now he (husband) leaves before sunrise and returns after sunset. And this (the change) can't be measured in money but in affection...The affection sustains us. (B2)

The town is very beautiful, but there is not any firewood, nor animals, eggs, vegetables; here everything is obtained with money. (C2)

If all houses were not constructed in the urban area, the people wouldn't have migrated. (B3)

It is a very good place. I have lived in the country very far from population centers and (you know how it is) to arrive here where I find myself surrounded by everything, that is to say, where I find myself in a comfortable house that I didn't have in any other place, schools nearby. (D3)

When one is in the country, one doesn't value what one will leave the day that one leaves. Because we have always had a small garden, flowers, animals, (it is difficult) to come to a place where this is not permitted, where we can't have them; yes, change, change comfort for scarcities. (B2)

(In the country) we used intelligence to substitute some things for another. People are

more alert, more cunning, they use nature in the real dimension. Comfort brings conformity; I don't have to make an effort, things come to me ready, (sales persons of) vegetables and meat come to my door. In the past, we had a garden and we didn't have a problem with money. (B1)

Close Rural Community

The majority of the perceptions of change in the rural community close to the urban area refer to the last 15 years. However, some informants related changes which occurred in a longer time period, for example, the case of the grandmother who described the changes she perceived in approximately the last five decades. The perceptions of changes varied between those who did not perceive change and those who perceived little change; there were no perceptions of substantial changes.

No, it hasn't changed. (F2)

It has changed very little. (E1, G3)

It changed, not much, but it changed. (E3)

Before there wasn't electricity, now there is, but other changes, few or nothing. (F1)

Yes, it has changed a little. (E2)

In relation to the direction of changes, informants of three generations described the perceived changes referring to their slow rhythm.

This is going backwards. There isn't work. And these kids (where will they go?) And where are they going to find jobs? (They) earn so little and life is so expensive! (F4)

(The place) has changed. It's poorer. At this moment there is more poverty. (E3)

But we are progressing a tiny bit. (E2)

You can't say that (this place) is progressing much, it remains the same. (F1)

It's progressing in very short steps. (F1)

(It is progressing) not as we would like it to, but we have achieved something. (E3)

Female informants described changes in the human built environment of their local community.

(The place) is modernizing, we have electric light. (F2)

The roads are improved, covered with gravel. (G2)

Now you can enter the neighborhood at night, the streets are illuminated. There are four street lights. (E2)

Male informants described other changes in the human built environment. All of them referred to the effects produced by the earthquake in their families and local community; like almost all families in this community, their houses were destroyed.

(From the things that we had) when we got married, of the furniture we had, only this little table is left, (however) we had everything. Here (referring to the place) everything fell down. (Thus, I had to) begin again. (E3)

The other Community Committee (did the appropriate legal work) to secure the legal distribution of the land (with deeds). The land was divided in measured units. Before that, we couldn't distinguish one boundary from the next because of the disorder. (G3)

From their perspective, the younger informants perceived

advantages derived from changes in the human built environment.

All is changing, is modernizing. Now we have energy, we have (electric) light; we can stay out later (at night), we talk together on the corner with our friends. In the past no, when night came, each one went to his house; now it's different. (E1)

Informants perceived changes in the social-cultural environment, related to social organization and human resources. The loss of human resources, mentioned by all informants, was considered a kind of poverty.

We are a little more organized. (G2)

The people are (now) more united, there is more contact between one person and another, we have more contacts with people (outsiders). Before, nobody came here. (E2)

In the past, all this (place) was inhabited. We were many families. (F3)

In the past, at least there were more young people. Now we are very few, we should be 10 boys, and girls, well, there are very few. Many young people have gone. (E1)

Many families got a house in the city (urban area) and they left and we are left underpopulated. We are few. In this sense, we are poorer. (E2)

The informants perceived a relationship between the exodus of youth and families and the precarious housing conditions, the shortage of working opportunities, and the impossibility of constructing housing due to the lack of drinking water, which is a required governmental condition prior to the construction of new housing neighborhoods.

I know how much one suffers living in these ranchitos (small precarious houses)! (F2)

The people have gone because here, in these ranchitos, everybody and everything gets completely soaked (when it rains); when it rains, everything is ruined. (E2)

We bought this plot, we built this house, the earthquake demolished it, then we built this ranchito... I'm very uncomfortable with these living conditions... Having a house, one knows that if it is raining one wouldn't get wet; if a wind is blowing, one wouldn't eat dirt as we do. Our hope is this: to have a house. (G2)

Many people left because there is little work and the housing was constructed in the center (urban area). They have gone because of housing and work problems. It's not because they wanted to go, but that they saw it as an obligation. (E3)

A water treatment plant would be just what we need. Although we have the ranchitos, we can't build houses because we don't have the (potable) water. We have the barrier of the lack of safe drinking water. (E2)

Specifically, the work issue refers not only to supply and demand, but also to the minimal diversity and the social benefits which are available only to permanent workers, such as health benefits, life insurance and family salary. Also, this issue is related to family resource use and administration practices and their effects on the children's welfare. In this subculture, children have assigned responsibilities such as caring for siblings and running errands, especially shopping for food, which they do daily because of the lack of refrigerators and money.

One has no other work than in the vineyards. (F1)

In the past, work was always available; now it isn't. If you have five children and don't receive (supplemental) family salary which you got previously, there are families that are having a bad time. For this reason they leave... The income

that enters the house is very little. Sometimes they manage badly also. (There are) people who don't control. (E3)

(People) don't know how to manage what they have. If they have a bike and they sell it, they sold the bike and the next day, they "ate it" (that is, spent all the money on food). Nothing is solved. And now, to buy a bicycle means lots of money for someone who works on the farms because you earn just enough to eat. (E3)

Many families don't have even a bicycle; (there are) mothers who send the children on foot in order not to spend money (for bus fare). Here the children suffer a great deal. (G2)

In a long term perspective, a grandmother described the changes that she perceived in the last five decades.

(This place) has been changing. (Before there were) men more capable, who liked to work, have their house, each one with the vegetable garden and an orchard. What you see now is kids in the streets begging for bread; in the past, you didn't see this. People earned less, (but) all the fathers went to work and brought bread (food) to their houses, but not now. Now you see a lot of misery. Before many worked on the X farm and the other one across the road; these farms are bankrupt. (These farms) had innumerable horses, cows, sheep, everything, "flowering" (abundance) of animals; trucks for transporting workers, and now you see nothing, all earth. And so it has terminated. (F4)

The informants perceived that ideas change throughout time, generation by generation.

One makes a part like my father did; later another generation comes along and continues advancing; the ideas change. It could be a complete change, a well organized neighborhood, everything neat. (G3)

Perhaps they, my grandparents and great grandparents, tried to do the same. Previous times are not the same as now; those people perhaps didn't have the ideas that we have. The young people come with new ideas. (E1)

Distant Rural Community

Most of the perceptions of change in the rural community distant from the urban area are within a time period of the last 15 years. However, some informants referred to changes which occurred in a longer term, in the last 25 years. The perceptions of changes varied between those who perceived backwardness and those who did not perceive any change to those who perceived little change; there were no perceptions of substantial changes.

Here, you can't see any progress, just the opposite. (J1)

No, it remains the same. This is a place that is flattened because it is permanently dead. The fields were left, abandoned. Changes in the county no, in the area no, here no. (H2)

Yes, of course, it has changed somewhat. (I2)

In relation to the direction of changes, the informants perceived negative structural changes related to agriculture, the principal activity in the area.

Yes, it has changed. In the past, this place was beautiful, (it) was very productive, very neat, because the real owners were here; then came the subdivision (of land), and then, this started to terminate. (J3)

Instead of going ahead, it is going down. Twenty years ago, these were not fields, it was a village...Now it is (just a) field. (J1)

There isn't production, (there's) shortage of work, we have the X winery that employs two or three girls, no more. Here there is a great poverty. Here there is nothing for the women; the

woman who wants to work has to go to the city.
(H2)

It can be said that, 10 years ago, the vineyards and wine production were still a good deal, (but) for the last 10 years they aren't. (J3)

It's a life always the same, there aren't great changes because we haven't evolutionized in industry. (We) live like many years ago with the difference that the wine consumption in Argentina is reduced; having less consumption, the agriculture was down, it's impossible to live well. And the other things you can try to plant have (a) market but not much. Now we have trade with Brazil, but Europe and USA are a little closed to our production. (H3)

The informants who lived at a distance from the urban area appeared to perceive an especially slow rhythm of changes.

We can say that there are small advances for an agricultural area like this. We could have much bigger advances, but there aren't any. To the contrary, it tends to decrease. (H3)

Male, female and younger informants perceived positive changes in the human constructed environment.

We had a house in good condition, it was demolished by the earthquake. Now I have a seismic resistant house. (H1, H2, H3, J1, J2, J3)

We have a new school building. (H2, I2, I3, J1)

In the past we didn't have post office, electricity, paved road. In things like this, much has changed. (I2)

With electricity, one has all the comforts (electric equipment) that one can acquire. (H3)

Kids can go during the night to the high school because now we have (a special) bus service. (H2)

There is a small drainage system; with the new canal I can irrigate twice as much (land)...They

are improvements, advancements. (H3)

In the social environment, changes in social organization and human resources were perceived. In its origin, this area was organized as a colony of Spanish immigrants.

In the past, we were all one family. We had (a) Directive Committee and our neighbors were just like family. We have grown with these people as a family. Now, we have just neighbors. (J1)

We also had a cooperative, the X Cooperative; we built a winery. It was going very well. We had wine distribution market in X state; we had railroad equipment for wine transportation also, these things... For a cooperative, human values and honest people are needed, especially honest people. (J3)

Before, the school was a school (for teaching). Now the school is for everything; for parents' meetings, for friends' meetings, for praying, all is (in) the school. In the past, no. We don't have Community Committee and this is needed. (I2)

Many people left. (H3)

There is an explicit recognition of the goodness of the natural resources, especially water and soil.

We have water, good soil, little salinity... In fact, this area's soil and water are excellent... with a little sacrifice and care, all can be recovered. (J3)

The earth has to be cared for. (I3)

I don't like this dryness. How water changes (things)! (H3)

They are rich areas that can give in themselves a means of life. (H2)

Summary

In spite of the variety of changes perceived by the informants about the place where they live, there are analogies in the perceptions of informants who share the microenvironment of their local community. They described changes in the natural, human social-cultural, and human built environments of their local ecosystems, which are displayed in Table 3.

Informants of the three studied areas described changes in the natural, human built, and human social-cultural environments. According to their perceptions, some conclusions about change emerged from the data.

From the natural environment, the earthquake of November 1977 produced both unplanned and, later, planned changes in the natural, human built and human social-cultural environments in the three studied areas. It produced a need for adaptation to the new environment, which was mentioned with emphasis in the urbanized area. It produced positive changes in the human built environment of the urbanized area. These changes are perceived as positive at the community level and as mixed, positive with some negative, at the familial level. Positive changes were perceived in the social-cultural environment by male, female and younger informants in the urbanized area.



Table 3. Changes in Three Environmental Dimensions Perceived by Informants in Three Communities, San Juan, Argentina.*

Environment dimensions	Urbanized area	Close rural community	Distant rural community
Natural	EARTHQUAKE	EARTHQUAKE	EARTHQUAKE Soils
Human built	+NEW HOUSING +HEALTH SERV +SCHOOL SERV +COMMERCE +CROWDING +PROGRESS +COMFORT +CITY RHYTHM +UTILITIES -Lack garden -Lack of work -Need money	-POOR HOUSING -POVERTY -LESS PEOPLE -LACK OF WORK +Electricity +Street light +Better roads +Deeded plots	-FLATTENED -ABANDONMENT -POVERTY -LAND SUBDIVIS -ECON CRISIS -LESS PEOPLE +Drainage sys +New canal +Paved roads +Secure houses** +Electricity** +New school** +Post office**
Human socio-cultural	+SOC SUPPORT +WELL BEING +VIGOR -Crowding -Forced move	-FAMILY EXODUS -YOUTH EXODUS -STAGNATION +UNITED PEOPLE +ORGANIZED +Plot owners +New ideas	-FAMILY EXODUS -YOUTH EXODUS -STAGNATION -FORSAKEN -Neighbors not a family -Now fields not a village

* Those perceived changes in capital letters were mentioned first, and with more emphasis and frequency, by most of the informants as documented in the tapes. The symbols (+ and -) refer to the direction of the change as interpreted by the researcher from the taped data.

** Items that probably were taken for granted and were not mentioned until the last part of the interview in response to probes. All these human built items had been completed a few years after the earthquake and in recent years no additions have appeared.

Overall, a positive, progressive process is perceived by informants in the urbanized area, in spite of the need for adaptation and the love of the country life.

Negative and a few positive changes are perceived in the human built, and human social-cultural environments at the community and familial level by informants in the rural community close to the urban area.

Overall, a stagnation process is perceived by informants in the rural community close to the urban area, in spite of their unity and organization.

Negative changes are perceived in the natural environment by informants in the rural community distant from the urban area. In addition to the devastation of the earthquake which affected all the informants, those in the distant rural community also perceived the deterioration of their soils, although they expressed the idea that these soils can still be recovered with care.

Negative structural changes and some positive changes are perceived in the human built environment by informants in the rural community distant from the urban area, at the community and familial level. Negative changes are perceived in the social-cultural environment by these same informants at the community level.

Overall, a backward process is perceived by informants in the distant rural community, in spite of their recognition of the quality of their natural resources.

5. EMERGING VALUES

The analysis of data about how the informants described the place where they lived, the needs that they felt, what they want to change, and why they struggle, provides the opportunity to discover what they value, and especially the values related to the studied concept of rural sustainable development. It is assumed that expressions and terms used by informants throughout the conversational interviews express or represent their values.

There are similarities in the terms used by informants when they described their local community. Data from informants in the urbanized area are presented first, and then, data from informants in the near rural community and distant rural community. General descriptions and then values which the researcher interpreted as fundamental and instrumental are presented at the individual, family, and community levels. Fundamental values, which for these informants were mainly family oriented, are essential ones that were distinguished from instrumental values which serve as means.



Urbanized Area

The initial part of the interview was an open, situational question in which the informants described the place where they live. Their description of the area was based on its qualities, inhabitants, and facilities.

It's big. (D2)

It's a more complex place, more proportion of inhabitants. (C3)

It's more or less modern. (A1)

It's a very familiar zone (social relationships). (A1, C1)

(It's a place) with human warmth. (D2)

There are many people, people who came from the country, who like to work. (A1)

Humble people, but who want to grow, to have a clean neighborhood, very nice. (A3)

It's a place where we have safe drinking water, electric light, comfort, conveniences. (B2)

Family Values

The value of the family emerged from the expressed opinions of youth, wives and husbands. In the opinions of the youth, to remain in the family home was strongly connected with the problem of lack of work, the forced exodus, the uncertainty and the anguish.

The family (is) first, after that, everything else. I want to be always with them (family members), but I can't. Now I have to emigrate. I'm the oldest. Here there is nothing (referring to work). I don't know where I can find a job.

To have to go leaving what we love a great deal,
that is what hurts me now. (B1)

The family is the richness, the happiness, the
desire to live. (B2)

To give (things) to the kids, because that is what
pains one the most, the kids. (A2)

The kids need to know what is going on at home,
the whole family has to know what (we) plan to do.
I have attained a family because of this, because
I have known how to dialogue. What is better than
if a child (who) has a problem tells it to one (a
parent)! (B3)

When they are 18, many kids have studied, have
graduated, but the doors are closed for them, they
don't have any place to work. (She thinks that
her son is going to emigrate.) This is division
of the family, it's a sorrow. (C2)

Given the importance of the family, values recognized
in the family are projected to the immediate community as a
huge family. In most of the interviews, the values of
friendship, unity, tranquility, progress, respect, hope and
giving or sharing are emphasized and interrelated. In the
researcher's view these are long standing values.

To have many friends and these two sons are my
pride. (A3)

I have many friends, I feel good. (C1)

To have to leave them (the friends) hurts. (B1)

There is friendship among neighbors. (D2)

I'm trying to achieve unity among the neighbors.
I always say, we have to be united as a family at
home. If you can't get an agreement within the
family, (how can you) pretend to get an agreement
in the community. How can you do it outside if
you aren't practicing it inside? (B2)

This a quiet neighborhood, nice, there're many
kids. (A2)

For me, progress is the beauty of the place, (to be able) to count on all the necessary facilities. (C3)

(It's desirable that) people feel comfortable, that kids have a place to play. (A2)

I teach them (sons) respect. (A3)

I received a lot and I had the opportunity to give and this is important, to give without interest, from the heart, and people recognize this, feel this. (C2)

(Attitude of service) This comes at birth, I was born with this ideal, I've always tried to do it (serve) the most humbly possible to avoid reactions. (C3)

Instrumental Values

Informants in the urban area referred to issues that reflect instrumental values that prepare the new generations for the future.

One of the objectives that I have with my wife is that the kids are educated, not like one who had to live all (his) life in the country and remains marginal. (D3)

I'm a son of a single mother. I suffered a lot. Since I was a kid, I've had a goal: to have a family, to form a home. To give to my kids all I can and educate them, because I'm illiterate. (B3).

(The country gives many things.) But it eliminates this part - the education to struggle, to raise oneself more easily in life. You've seen that with education it is easier to elevate oneself than to work the land. (These) are the factors that one seeks, urban areas to move ahead. (D3)

The issue of work is connected with the value of education and equity which in a broad sense is interpreted

as ethical rights. Since the principal activity of all of the male informants in rural areas is connected with agriculture, they referred to rural work.

Teach the youngsters the love of work, because with health and work, there is well-being. (C3)

I can see much desertion by rural kids, lack of work, they emigrate to other places, they look for new horizons. I believe that there ought to be periodic meetings, programs of work, of (rural) organization. (C3)

They haven't created any sources of work... There's nothing. You know, my kid has studied (construction). For what? To be here loading logs! And, what can he do? The other kid had to emigrate to another place, and so on. Here we are very bad in this (sources of work). (B3)

I would like to say that if a youth graduates, he prefers to work in the urban area because of the conveniences. The rural work is hard and the salary is low. For only one person, (it's) just enough to maintain himself, but for a family, it's low. (C1)

The rural areas have not been valued, the people who work in the country have not been valued. Here, the people who work in the fields need to be given value. Nobody likes to work in the fields. If I could stop going to the fields tomorrow, to go to work at something else, I'd do it. If we have the poorest salary, we don't have help, the health insurance we have has no value, we are the most unprotected. We can't strike because the owner will say I'll hire someone else and you can go, such as has already happened to several. Two fellows lost their jobs because they asked for shoes that is a legal right. Because we are all trying to catch (find) a job (this happens). Four months of work and comes the next (worker; turnover related to work laws). We don't have anybody's support, nobody defends us. Thus, for this (reason) nobody wants to work in the fields. This is what you have to see, the law, the government, (but) if they are also the owners, this is the bad thing. (B3).

Close Rural Community

Informants described their local community by referring to its qualities, its inhabitants' characteristics and its resources. Most of the informants described this rural community alluding to its tranquility.

This is a very tranquil place. (E1, E2, F1, F2, F4, G1, G3).

(This place is) small. (G1)

(This place is) precarious. (E1, F1)

People (are) simple, humble. (F1, E3)

We are distant from the city. (G2)

We are here permanently. (E2)

There is a lot of land. (G3)

(There is) good soil. (E3, F3)

Family Values

Youth, wives, and husbands expressed coincident opinions of the value of the family. For adolescents to remain in the family home was linked with work opportunities and socialization to face life, which they call "struggle".

My family (is) beautiful. (G1)

I like this place because I'm close to my daughter and (because of) the tranquility. (F4)

We (family members) live together, and everyone in the family shares the house expenses, the things that we have and the things that we haven't. We (parents) dialogue with the older kids, adding their ideas to ours. (G2)

When we were 15, we started to work, to gain the



small salary that is paid here. In this way we were learning the rigor of the job, and then, to the point of doing a task like we did with my wife (getting married). After that, to have the knowledge to be a parent of a family and to share with my kids, and (I'm) actually very thankful for my kids. They're for me and I'm for them. We are struggling to get what we want. If we abdicate, we get nothing. The whole life is a struggle for us. (G3)

Additional values recognized by the informants related to the immediate family and community are friendship, unity, tranquility, progress, respect, hope and giving or sharing. They appear interrelated and were expressed in most of the interviews with emphasis. In the researcher's impression, these values are long standing.

That the people are united, that they greet each other, (that) they are friends. (E3)

We live in unity, we are friends. (E1)

I can imagine (in the future) a big family, my brothers with kids, always united, just like 'til now. (F1)

What most interests me is that everyone is together, that the neighborhood be united. (E2)

(This) is a tranquil place, precarious but very tranquil. (E1)

The principal thing that we want is housing, that the economic situation is better for all, that so much poverty doesn't exist. This is what we desire. God willing, someday it will happen. If we don't get it, (we hope) that the ones who follow us get it. (E3)

Having a job and a house, people wouldn't leave this place; they wouldn't move from here. Because all of them have ideas like ours. The majority that have a little job, have it in the fields near here. So, if someone moves to the city, (he) needs to come back here to work. Having a job and a small house, the people don't leave, and the

neighborhood would go ahead, but if they are lacking (nothing happens). Here there is not a shop, nothing. There are very few people. (E2)

It could be that these things are improved a little. The poor that work the vineyards don't raise their head. They are paid little. I hope that things here will move, will go, that there is work. (F2)

I can imagine 10 years from now, each neighbor with his/her new home. (G1)

I had a good house. The earthquake destroyed it. Had to start again. I made this house like lightning. Tomorrow we could have a good house on this plot. I have a job on the farm. Here all is hope. (G3)

To work in the community kitchen is voluntary work. It gives me satisfactions, happiness for the kids. I have been working there for the last five years, and all this time ad-honorem, as a volunteer. (E3)

(Referring to a new family that came) There were 10, those of us here were going to help them, among all neighbors, but they left. (E2)

Instrumental Values

Informants in the rural community near to the urban area also referred to issues like education and work, that reflect instrumental values that prepare the new generations for the future. In the matter of education, the problem of the distance to the secondary school affects the educational opportunities of the youngsters, but especially of the girls, according to the data. The effort to study by rural youth is valued by families.

I didn't risk sending her to study because of the distance. (G2)

Before, I was the woman of the house, to prepare food, to clean (the house) and I never imagined

going outside, to make new friends, meet other people, other lives. My opinions are more valued than his because he (husband) realized that I wasn't here enclosed. He didn't have this opportunity. He says, "Kids, make opinions with your mother; your ideas are better, they're more developed." (G2)

Ah, I think so much and I ask God to give me life to see my kid working with his studies, for which he sacrificed so much, to see him working, to gain his money, that he's not dependent on his father. We have struggled a lot with them. The sacrifice that those kids made to go to school, get up at 5 o'clock ... You can see that the kids graduating in whatever, have to go outside to look for a job because here, there isn't any. (F2)

There isn't secure, permanent work. (G1)

You earn little. (F4)

Here in Argentina, all is in a bad situation. There isn't secure, permanent work. For me, I think, this is everywhere; this is important because my future depends on it. (F1)

With 600,000 australes (60 US\$ 24 April 1991), can you believe that is enough for a living? (referring to her husband's monthly retirement income as rural worker)... We have to support our kid (student). He gets the retirement after more than 40 years of work. What do you think? A whole life! This is bad. (F2)

Distant Rural Community

All informants emphasized that, in the past, this was a wonderful, very populated, familial, and productive community with a source of employment and connection by rail for wine sales. They described it in the present as an isolated place, tranquil, healthy, with honest people, good

social relations, but suffering the depression of an economic crisis. Progress in the human built environment is valued; it did happen in the past, but not currently.

This is an isolated place, very solitary. You have things far (away). Here we don't have meat nor vegetable sellers door to door; you have to go to the village, 30 blocks away, to look for groceries. Here each one has his own animals, his own vegetables, you have your survival, (you) don't (have) to be going (shopping) every day, shopping is done weekly. Ten blocks from here, the vegetable seller passes twice a week, the meat seller too, (but) not here. I have the luck to have electricity, so I have my conveniences. (H2)

I see it as a very humble zone, with few resources For living it's a tranquil place, for the kids it's wonderful as they can do what they like, but it's also a place of apathetic people. (H1)

It's tranquil, with few changes, very healthy; there aren't great vices, there aren't drug(s), because of the economic level of the people, neither is there a market for those people (drug dealers). (H3)

This is a good place; the people are all rural. Here nothing is lost (honesty). The people are very respectful. If someone is not at home, the neighbor takes care of (the house), keeping guard and thus we take care of one another. And if something is lost, one knows who was walking and who wasn't. (I3)

This place is really rural (isolated). I don't like to live here anymore because one doesn't see any progress. (J1)

Family Values

Interviews emphasized the value of the family. Witness the expressions of a woman, mother of five, all students in secondary school and college, who became the earner of the family when their vineyard was burned by accident. Her

husband worked recovering the land, starting again, but the recovery of a vineyard takes many years. She was an active volunteer demonstrator in the Rural Extension Service who used these skills to earn money when this became necessary.

To improve, try to improve the level of life of my family, this always has been my objective and it's going to be. That my kids be someone in life and that they achieve this by themselves. We have to start... In the last five years, with the help of my two sons, I have been sustaining the home; sometimes I get very tired... You have to deny yourself to be able to give, to deny yourself to give life to the others. (H2)

Additional values recognized by the informants related to the immediate family and community are friendship, unity, honesty, respect, and giving or sharing. They appear interrelated and were emphasized in most of the interviews.

We are friends of all of our neighbors. (I2)

Helpful people. If something happens to you, a neighbor will help you, will assist you. (This is) a place in which you live alone, neighbors are far away and at the same time you are friends of all neighbors. Because here one knows everyone else, we are all friends. We all know each other and if something happens to one, everyone else will eventually know. (H2)

Here nothing gets lost. (I3)

What I learned, I learned from somebody else (not in the school). I teach (my peers) what I learned. (I2)

I always wanted to go somewhere else to teach what one knows (what I learned as a demonstrator). (J1)

Instrumental Values

Education is highly valued by informants in the rural community distant from the urban area. They also referred



to the problem of the distance to secondary school and how it affects the educational opportunities of the youngsters, but especially of the girls. This issue and work opportunities and migration were considered by these informants.

I always wanted to have a degree to be someone more valued (but) I always lived too far away (from education centers). In the past, parents didn't let (girls) go outside by themselves. Those were old customs. (I2)

The future of my son is outside. He is doing well. He has his studies, is capable. (H3)

I didn't attend high school because my grandfather was opposed. He thought that girls are for home...Here the woman who wants to work has to go to the city; I'm here in the house doing the housework. (J1)

My kids will not work on the farm. They will have to look for a job outside. They don't like to work in the fields. (I2)

I am going to look for work in the city. If I am here, I will come to my house to sleep, to rest. I am going elsewhere, my work will take me elsewhere. (H1)

Summary

The summary of the emerging values of informants in the three studied communities is presented in Table 4. They are, according to the researcher's interpretation, characteristic values of the rural subculture, an integral part of human social-cultural environment.

In the display, work appears as an instrumental value in spite of the fact that it was highly valued in itself. Many facets of the issue were mentioned by informants, like availability and diversity; some facets were emphasized, like low valorization of rural work, low social recognition, low salaries, unsatisfactory working and social security conditions, which the researcher interpreted as ethics.

Table 4. Emerging Values in Three Communities, San Juan, Argentina

Emerging values	Urbanized area	Close rural community	Distant rural community
Individual	Family	Family	Family
Family and community			
Fundamental			
	Friendship Unity Progress Give/share Respect Hope	Friendship Unity Tranquility Give/share Respect Hope	Friendship Mutual help Tranquility Give/share Honesty
Instrumental			
	Education Work Ethics	Education Work Ethics	Education Work
Community	Modernity Complexity Grand scale	Familiarity Tranquility Humility	Solitude Tranquility Health



Work and education were interrelated and closely related to the phenomenon of rural migration. In this sense they were classified as instrumental. The researcher supposes that ethical rights did not appear as a value in the distant rural community because the families were owners of their land, worked the land with their own families, were not workers on others' farms, and, therefore, were not directly concerned with workers' rights.

6. EMERGING HUMAN ATTRIBUTES

As a third component of the emerging theory, some emerging human attributes were emphasized by informants of the three studied areas. Specifically, these human conditions are resilience and endurance; self-valorization including self-identity, self-esteem and self-confidence; and rootedness or identification with a place,. These emerging attributes are important contributions to the objective of this study: the concept of sustainable development as perceived by members of farm families which play a leadership role in their local community. A sense of humor is another possible human attribute which forms part of the culture. Although there are evidences of this quality in the data, the humor is not easily translatable and, therefore, is not presented as evidence. In the opinion of the researcher, these human attributes are related to human conditions or qualities assumed by the informants as underlying conditions for sustainable development. Because these were presented by all informants in one or another expression, the distinction among studied areas is not necessary. Distinctions by gender among adults can be found for some human attributes.

Resilience

The human attribute of resilience emerged when informants referred to their own capacity to recover themselves, to rebuild their ecosystem after a disaster or crisis in a natural, human built or human social-cultural environment, like the earthquake of November 1977, drought, economic crisis, salinization, fire or lack of social recognition of rural work and life. They were referring to resilience in their own words; their own flexibility which they call "struggle". But there are different approaches between men and women; men referred to struggle linked to machism as a cultural style, but women's expressions were more elaborated, linked with pragmatism and hope, and in more active terms.

(He described that the earthquake destroyed the houses in the area.) One struggles and struggles. It's hard because we don't get what we want. What we are doing is struggling for the whole neighborhood. If we all abandon (give up), that is the saddest thing. (E3)

(After mentioning some successes) These are changes which are carrying us forward and following behind them we are struggling. Now we have the intention to leave this, the poverty of ranchos (precarious houses built in the emergency after the earthquake of '77) for a nice house. We already made a step; the youth will make another. (G3)

Sometimes it was hard, but we have continued with the (rural) community activities. (C3)

I can see that, in spite of the (difficult)

situation, the people don't decay. They continue struggling, they try all the time to improve. I can see it in ourselves. That is, as you know, I go to a night school X. This high school is for adults...We started with 220 students (5 years ago) and now there are 900...Yes, the people have each day more desire to make something (of themselves), in other words, they are taking more value, notion of what they are. (D2)

One should never lose hope. (A2)

Endurance

The difficulty and rigorousness of rural life under those living conditions make endurance a repeatedly expressed human characteristic. The informants, especially adults, mentioned that toughness and endurance are important attributes to prepare the new members for their hard living conditions. However, toughness or hardness is accompanied by a sensitivity, which could be associated with the higo tuna (a cactus which has dry thorns on the outside and is juicy and sweet inside).

The struggle here is very hard. I have worked too much. (F3)

(In spite of the fact that the father wanted to "protect" his daughter) I wanted my daughter to have a job to learn about life, because life needs to be learned. (B2)

The government doesn't do anything for us. We are far away, isolated from all, but that's not (a reason) to stop. (H2)

We need to find a way of not stagnating, of not remaining the same, no, (we) have to continue struggling. (D3)

We have the same ideas - that we all try to work together through the community committee in order to realize all (our needs). (G1)

All my life I have worked in the fields and my whole life has been a sacrifice for me. What I have is what I have struggled a whole lot for. I have struggled (along) with my wife. (B3)

Loving, with goodwill all can be done. (A3)

(After a detailed description of her childhood with many sisters and brothers abandoned by her parents in poverty, she concluded as follows) Well, our history is hard, that's why I'm a woman that totally loves life, and all the beings that life has given me. (D2)

Self-Valorization

The emerging profile of the informants emphasized some of their psychological characteristics as social actors: self-identity, self-esteem and self-confidence. These human attributes, in the researcher's interpretation, are basic, that is, they form a part of human qualities needed as a prerequisite for sustainable development. In the data, all these human conditions appeared interrelated as self-valorization. Also, they appeared integrated with a sense of belongingness, that is, a personal and familial identification with a place.

Self-identity

This is solid and also emphasizes group identity as a collective identity.

I teach my children: love life as much as I have loved it. I go to school (secondary), but I know



that at my age I don't know if I will have an opportunity to work as a teacher or (even as a) substitute, but this serves as my own satisfaction and as a role model for my kids. (D2)

The only thing that I ask is that my kids always take the good road; in the future, when they have to form a home...that they be a good model for their children and that they never lose this love for the family, because without love, it doesn't matter how much money we have, nothing is gained. (D2)

I tried to change my person (as a trained demonstrator); I was dull, ashamed to talk. Now I feel more relaxed for all, also I try to do everything. (J1)

(Our community) is healthy in the sense that we still have importance, we are important. (D2)

Never have Mother's Day or Children's Day passed without celebration. Last year (also) we made a toast to say good bye to the old year; all the neighbors came, all contributed with ingredients for dinner. (E2)

Self-confidence

Self-confidence, which also appeared related with hope, is expressed by adult and young informants.

I'm achieving good things, getting the best things for my family. I think that when a human being proposes to do something, she always achieves it. It's a saying that I always say, that is, if we want to have the best, we don't have to stop, (we have to) continue day by day looking for the best for the family and thus the best for the place where we are living, for the community. We never have to remain with crossed arms and I have faith that, in this way, day by day we will go ahead. (D2)

I think that the neighborhood will change (improve), as the community committees are moving (working). (A1)

For me, (this place) will grow because of its people, not for the men that are in the government. (D3)



(She decided to remain in the rural community. There, ten years ahead) I can imagine each neighbor with a new house, not a ranchito like we are living (in now); with a first aid center. (G1)

Self-esteem

Collective and gender identifications along with self-esteem appear in the discourses of women who are leaders.

Now we are struggling for a site, a place that is ours (to be our community room)(referred to a multiple function room, to be used as headquarters for the community committee). (E2)

(Youth) looking for a future they leave, they go outside the province, outside the country, and, if they aren't accepted, they have to return with their heads down; this is sad (embarrassing). (C2)

We know ourselves well and this fills us with pride; in spite of the economic situation, of the crisis that is global, in every place, here you don't see it because we are rural people (resilient). I value this so much because I see that there is human warmth. (D2)

Because many times when a couple gets married, they think that the woman should only be at home, that is, that the husband gets the position of machito (small macho) in the home and the woman is for cooking, cleaning the kids and thus the husband believes that he loves his home and no! Now there are many conveniences and because of them (this place) is changing. We are liberating, but for good. With what I've seen, with what I've experienced, I've always said I'd write a book; of course, I'd lack pages, in every sense, because here and in my job (as a cleaning person), I'm a woman thankful for my life. (D2)

The culturally rooted value of the men as food provider for the family also appeared.

Here, welfare is killing the nation, starting with the food package (from the National Food Program), now the food bag (the same program), food bonus (similar to food stamps); this shouldn't exist. Give them (the poor) sources of work. (C3)



Rootedness

The sense of belonging to a place, the personal and familiar identification with a specific rural community, according to the researcher's interpretations, functions as a reaffirmation of their own identity. Rootedness appeared integrated with psychological qualities of self-valorization, specifically self-identity. This sense of belongingness becomes another important characteristic emerging in the data. Informants in rural communities referred to their rootedness on their farm land and in their local communities, and informants from urbanized areas referred to their identification with their city, county, or another bigger and less defined place which they call "our land".

This land is something sacred for us, because here the eight brothers have been born. (I3)

This is the place where I was born, I grew up here, I have many friends; if someday I leave, I'll miss the customs a lot. (J1)

We have a house and a job to live from, we have everything here. (F2)

If I get a chance to finish my studies (as an elementary school teacher), I would like to teach there (his own community). If I had to teach somewhere else, well, I'll have to go. (F1)

(The urban area) "pulls" (attracts). (B1)

There is no land like one's land, even if it's poor. (C3)

Even if it were the poorest in the world, there is no land like one's land. (A3)

Wives expressed definite identification with their place, using clear words and emotional involvement.

It's a place that has to be loved to be able to live in it. (H2)

(This place) it's nice, I like it. (H2, I2, J2)

There is peace, I like it here. (E2)

When you love your family, you love your community, because this is where your kids will live. (B2)

Informants in the urbanized area referred to the country, the rural area, giving it more value.

I find myself surrounded by everything... (but) we couldn't live in cities if nobody produces in the country. (D3)

There are more possibilities of progress, of work, in rural areas. I never lose hope of returning to the country. (C3)

Informants of the rural community distant from an urban area confirm the value of the country.

Here you have to seek the hub in the country. (J3)

Reactivation of the country. That we industrialize what we grow (produce) in the area. I have always had this idea. (H3)

I always struggled for more progress in the country. (H2)

I feel good. Here is the place where people offered me love, that kindness that you don't find in another place. (I2)

Summary

The human attributes of resilience, endurance, self valorization (self-esteem, self-confidence and self-identity) and rootedness, appeared as baseline human characteristics expressed by informants, and as human conditions necessary for remaining in the environments in which they find themselves. In the researcher's interpretation of the data, these emerging human qualities are a basic ingredient if development is to be sustainable.



7. INTEGRATION OF DEVELOPING CONCEPTS

This stage of developing concepts is integrative, it is an intuitive process, moving from description to interpretation. Concepts from informants were analyzed. Words and phrases in informants' own vocabularies that captured the meaning of what they say or do were examined. These are referred to as concrete concepts. Their meaning is taken solely from the informants' expressions rather than from scientific definition.

Informants in the three studied areas communicated clear perceptions of what the researcher classified as changes, values, and human characteristics. How are all these approximations related to the concept of sustainable development?

Using the framework of human ecology and conceiving rural families and their communities as ecosystems, the data provide insights about the conceptual issue: the concept of rural sustainable development. The researcher can infer from the data that informants held their own concept based on their own experience as leaders or key social actors and on their knowledge about the area, including problems, needs, and survival strategies common in the subculture,

especially struggling. Their perspective is holistic, communicating a picture of the social whole of their local community, inserted in a larger national environment. Frequently they made comparisons with other places: a close urbanized community, central cities, other provinces, other countries.

The informants have definite opinions and clear perceptions in relation to the past and present, especially defined in relation to the 1977 earthquake. Opinions were usually based on and illustrated with facts. Young people, however, did not risk opinions about their own future, as if they did not like to think about it or reveal the lack of control that they really have over their own future. With one exception, the most educated ones, expressing their preference for urban life and its opportunities, have already decided to leave. The less educated said they preferred to remain in their local community, but explained the advantages and gave reasons. It is a sort of stage migration phenomenon: Those who live in rural settings leave them for a nearby urbanized area; those who live there move to a larger urban center. In this continuum, the county seat appeared as an intermediate center, more accessible culturally and socially as well as more practical in terms of time, money and energy. The maximum was a young student of computation who plans to study abroad, in a developed country, because of the level of education, but he plans to



study and to return. In this sense, members of a unitary and cohesive group like a rural Latin American family do hold different perceptions. On the other hand, parents' opinions about the future of their young adult sons and daughters seemed in all cases to be very realistic; they considered qualities and limitations separately from their feelings and desires.

The informants use critical thinking. They recognized a gap between what is and what should be. This emerges in their considerations, testimony and indications about ethical rights. They know that they value familism, friendship, unity and dignity in a system and structure that value and involve individualism and alienation. They value equality, social recognition and self-realization in a system and structure that involve domination and exploitation.

Strong influence is played by kinship ties. Rootedness appeared integrated with psychological qualities of self-valorization, specifically self-identity. This sense of belongingness is shown by all informants in the three studied areas. However, the urban orientation of the upper classes in Argentina, as well as of middle classes which emulate them, generates a social dualism in the whole society which evolves to the emergence of a contradictory dichotomy in social and cultural values between urban and rural ways of life.

Demographic studies present rural women as those likely to move from rural to urban areas (Griffin and Williams, 1980; Jones, 1980; Wilkie and Wilkie, 1980). However, all adult female informants in the distant rural community expressed sound identification with their place, emotional involvement and the decision to remain on the farm in spite of the migration of the youth. They recognized as a contradiction the urban congestion on one hand and unexploited rural areas on the other. Their ownership of the small-farm land, as compared to non-owners, could be an important variable to be considered in future studies.

Adaptation was mentioned as a challenge for adult and young informants in the urbanized area. Comparisons between aspects of current urban and previous rural life were frequent in all three human ecological environments. Young informants expressed their confidence in the new environment. The leadership role was translated from rural to urban areas by all adult female informants. Is this an evidence of the self-confidence of the female rural leaders? Is this a positive result of the Rural Extension leadership training program? Is this a result of the need for social organization in the new neighborhood to fulfill common needs? This issue could be studied in depth. Adult male informants, caught in the dualism of shared rural work and urban home environments, mentioned ethical rights issues related to work and educational situations in which younger

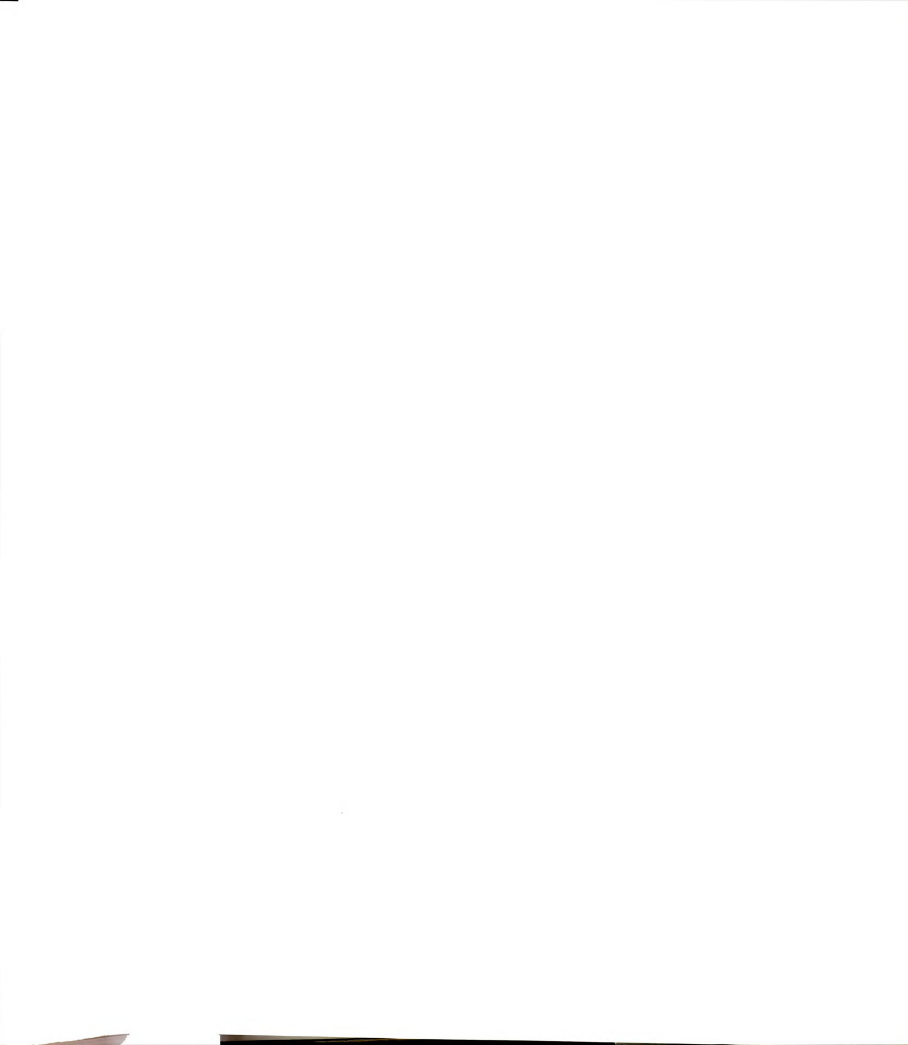
people with more formal education cannot find employment.

As indicated when describing the collection of data, most of the informants were open. Not only did they express opinions fluently, but also they shared their own feelings. Sometimes they cried; also many times the informants and the researcher laughed. A sense of humor is part of the culture and it is unfortunate that these evidences were not translatable. The role of these qualities in long periods of crisis is suggested for further studies.

Serious disaster from the natural environment, like the earthquake of 1977, and prolonged uncertainty from the human environments and the agricultural and economic crises, require special human conditions, especially resilience and endurance. The informants rated these human conditions as high values to be transmitted through the socialization of new members. Qualities of self-valorization including self-identity, self-esteem and self-confidence appear as a part of the concrete concept.

This is an attempt at a scientific analysis of the insider's point of view. The folk perception is integrated by the convergence of many features. These features can be used as a guideline in order to facilitate the constant comparison of both the folk and scientific versions of rural sustainable development in the future.

Focussing on the concept as it was presented in the first chapter, the terms are basically integrated by three



dimensions: change dimension, value dimension and time dimension. In the informants' point of view all these dimensions are "artificial" because they appear interrelated in the whole of their reality.

The most primitive term that integrates the studied concept is change, and specifically planned change. This is the change dimension. Informants perceived changes of different kinds, levels, intensity, directions and sources. Planned changes and also unplanned changes involve the natural physical-biological environment and the human built and social-cultural environments (see Figure 5).

Another primitive term which forms part of the studied concept is quality of life, specifically betterment. This is the value dimension that appears in folk perceptions. Informants expressed their own ideas of betterment, emphasizing fundamental values of familism, friendship, unity, progress, giving and sharing, hope, respect, honesty. Additionally, they indicated instrumental values of work, education and ethical rights. The idea of betterment involves the human built and social-cultural environment in which the material economic aspect of progress is included. Material conditions related to the satisfaction of basic needs were mentioned by informants in all studied areas. However, they indicated different qualitative levels; the resource-poor rural families mentioned their house (roof, protection), while the families who owned small farms

mentioned the economic benefits and the prices of the products (assets, security). They conceive betterment related with economic growth, but overall it appeared essentially related with ethical rights.

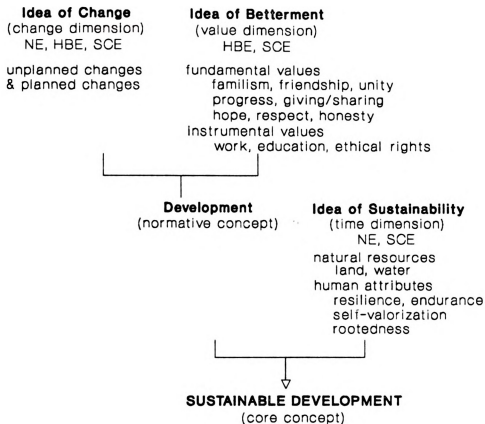


Figure 5. Concept of rural sustainable development as perceived by informants in three communities, San Juan, Argentina.

The third dimension is temporal. Sustainability is a derived term that refers to the idea of preservation over

time and the folk perception of informants suggests qualitative differences. Not all informants emphasized the biological or environmental sustainability as is emphasized by academic and professional developmentalists. However, all informants did emphasize other features related to the idea of preservation over time. These are human conditions or qualities of resilience and endurance; self-valorization, including self-identity, self-esteem and self-confidence; and rootedness or belongingness. The idea of sustainability involves the natural physical-biological environment, but especially the social-cultural environment.

All of these attributes are human attributes, part of the concrete concept of sustainable development. Sustainability is viewed in order to preserve the human environment for future generations. These human qualities are vital conditions for health, and thus for preservation, not only of the natural environment, but of human beings. In the researcher's interpretation of the data, these expressed human qualities emerged as a basic ingredient if development is to be sustainable. These can be labeled human conditions for sustainable development in the researcher's interpretation of the perceptions of the members of small-farm families in San Juan, Argentina.

8. DEVELOPING PROPOSITIONS AND HYPOTHESES

From interpretation to theory, this chapter deals with proposition building related to the concept of rural sustainable development. Preliminary propositions and related hypotheses help the researcher's attempt to gain a deeper understanding and to refine continually the interpretations of the concept of rural sustainable development.

Preliminary Propositions

The proposed propositions are underlined and supported by information from this research and the literature as well as by key words which link the concepts in nine increasingly complex relationships identified by Roman numerals.

In order to be sustainable, rural development has to avoid the destruction of natural resources, preserve the physical-biological environment and thus can be maintained over a long period of time.

-
- | | | | |
|----|----------------|-------|-----------------------|
| I. | Sustainability | _____ | Natural environment |
| | | | (physical-biological) |
-

However, in this study, some human attributes were perceived by informants as most important in the concept of rural sustainable development. Human conditions emphasized by informants of the three studied areas are part of the human social-cultural environment.

II. Sustainability _____ Human environment
(social-cultural)

The human conditions mentioned by informants are important qualities for social actors. These enable them to be participants. And participation is a condition for development, in this case, rural development (Axinn, 1978; Cohen & Uphoff, 1980; Campbell, 1984).

III. Human conditions _____ Participation
Participation _____ Development

Participation is a condition of autonomy. Autonomy requires real indigenous participation, inside actors not only spectators. In order to be sustainable, development has to preserve autonomy.

IV. Human conditions	_____	Participation
Participation	_____	Autonomy
Autonomy	_____	Sustainable development

In extension education, rural development can be promoted using different participation levels and approaches. Ruddle and Rondinelli (1983) distinguish two approaches for rural development; one is called the

transferential approach, focusing on agricultural production and the other, the transformational approach, focusing on quality of rural life. In an extreme of the participation continuum are the beneficiaries or presumed beneficiaries, treated as passive recipients of a set of standard techniques and practices under the main emphasis on transferring technology. Sophisticated technology is tested under experimental conditions and extension transfers it in order to increase production. Meanwhile, the marginal, resource-poor farmers rely on their skills, inherited knowledge and traditional practices. On the other hand, the transformational approach promotes human, rural community development through participation of social actors. Many rural people, farming families and migrant families with basic needs unsatisfied look for satisfaction of physical and social needs before technologies. However, in the researcher's experience, it is the transferential approach to rural development which is legitimized in many organizations.

V.	Human conditions	_____	Participation
	Participation-actors	_____	Transform. approach
	Transform. approach	_____	Autonomy
	Autonomy	_____	Sustainable devel.

At present, San Juan Province is facing the most massive and pervasive transfer of people from rural communities to urban centers in history (Censo, 1991). One

of the most crucial areas for policy action in the coming decade will be to rebuild rural livelihood. Rural livelihood, in contrast to the urban concept of employment, means an adequate and secure stock and flow of cash and food for the household throughout the year and during contingencies for small-farm families and landless laborer families, which often piece together a living through many different activities and enterprises (Chambers, et al., 1989).

Farmers migrate from rural to urban areas creating a social desertification of rural areas that is comparable to the soil desertification. Along with this, human conditions can be eroded producing human depletion. These human conditions were perceived by rural informants in this study. Resilience and endurance; self-valorization including self-identity, self-esteem and self-confidence; and rootedness are part of the concept of cultural identity. These human conditions are needed to sustain rural development.

VI. Human conditions _____ Cultural identity

resilience
endurance
self-valorization
 self-identity
 self-esteem
 self-confidence
rootedness

Cultural identity _____ Rural sust. develop

Central to everyday life in the studied areas is the

identification with family and rural community. This is obvious from the amounts of contact and visiting or socializing that take place in rural families; interpersonal relationships and loyalties are valued. In many instances, the total community is seen as an extended family in which each person experiences a sense of belonging and being appreciated as a valued member of the community.

Also central to daily life is the indigenous knowledge and the accompanying practices, also called empirical, ethnoscience, local, non-scientific or traditional, which are vital to development. In this respect, Arispe (1988) emphasized that the present conditions of the international system are making people in countries of the Southern Hemisphere poorer in economic resources, but they are also making them poorer in knowledge, and, what is perhaps even worse, poorer in confidence with which they could continue to create knowledge. This cultural erosion is a tragic fate for cultures that have created great civilizations. Simultaneously, biologists are warning, in the words of Wilson, cited by Miller (1985, p. 189):

The one process on-going in the 1980s that will take millions of years to correct is the loss of genetic and species diversity by the destruction of natural habitats. This is the folly our descendants are least likely to forgive us.

The counterpart of this loss of genetic diversity and of species in the realm of culture is the loss of diversity of human knowledge and of cultural traditions (Arispe,



1988). Human beings have the capacity to adapt to rapidly changing environments, including changes from the natural environment. Although the informants displayed traditional characteristics and a slow rhythm of change, they also showed a high capacity for adaptation to many changes which ranged in intensity. The major one was the devastating earthquake that destroyed their houses, furniture, almost all material things; after that, many decided to rebuild the house on the same plot.

Adaptation is based on the ability to learn from experience. It is probable that some development failures can be traced to the lack of attention to varied forms of local, traditional or indigenous conditions, needs, practice and knowledge. The recognition of existence of indigenous knowledge and practices, their effective use, the adaptation of scientific knowledge and practices to indigenous ones and vice versa and their integration are part of the concept of cultural diversity. It is needed to sustain rural development.

VII. Cultural diversity	_____	Rural sustainable development
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Diversity is a central concept in ecology, and cultural diversity is a central concept in human ecology. Although cultural diversity is needed for rural sustainable development, it alone is not sufficient. Cultural identity

is a corresponding attribute which is required. If the people in a community have lost their cultural identity, they have nothing to contribute to development. Since this is an attribute that can be eroded, it needs to be respected. In order for this to happen, recognition and effective use of cultural diversity is a characteristic required of those who promote development. Both the cultural identity of insiders and the recognition and effective use of cultural diversity by outsiders are crucial for rural sustainable development.

VIII. Both,
 cultural identity
 and cultural diversity _____ Rural
 sustainable
 development

Finally, human conditions are an essential part of cultural identity which permit the maintenance of rural subculture, the generation of folk knowledge and the creation of survival strategies.

IX. Cultural
 identity ____ Maintenance of rural subculture
 Generation of folk knowledge
 Creation of survival strategies

 then,
 loss of
 cultural
 identity ____ Extinction of rural subculture
 Weak generation of folk knowledge
 Non-creation of survival
 strategies

Natural and human environments are part of the human ecosystems. Human environment is composed of two kinds of environments: human built and human social-cultural environments. Both of them are important and need to be preserved in order for development to be sustainable. Human, material and ecological conditions were pointed out by informants.

The most general proposition is that in human ecosystems, biological diversity, cultural identity and cultural diversity are positively related to sustainable development. In order to be sustainable, rural development has to avoid the destruction of natural and human resources, preserve the physical-biological, natural environment and the human built and social-cultural environment, and thus can be sustained over a long period of time.

Preliminary Hypotheses

1. Potential for rural sustainable development is positively related to the level of cultural identity of insiders and acceptance of cultural diversity by outsiders.
2. Transformational approaches to rural development which recognize and integrate indigenous and scientific knowledge and practices in local situations with high local participation will be more successful than transferential approaches which are based on low local participation.



3. Human conditions of resilience and endurance; self-valorization including self-identity, self-esteem and self-confidence; and rootedness or identification with a place, as an integrated set, will be positively related with local participation in rural development projects.

4. Encouragement and support of local participation by enhancing renewed ties of family, kinship and social solidarity will be positively associated with a sense of belonging.

5. Encouragement and support of local participation by supporting peoples' initiatives and cultural identity will be positively associated with a creation of a new "sense of place" in a global social-culturally sustainable society.

9. SUMMARY AND IMPLICATIONS FOR THEORY, RESEARCH AND PRACTICE

Summary

A current goal of development programs is sustainable development which has been defined by planners and scholars from different disciplines. However, how do members of small-farm families conceive sustainable development? What are the terms used and how do the issues and symbols come about? Is environmental degradation taken into account? Do members of unitary and cohesive groups like farm families have different perceptions?

To discover the perception of rural sustainable development, qualitative data were provided by informants who are members of families in three communities of San Juan Province, Argentina. Husbands, wives and one adolescent or young adult child in each of 10 families of rural leaders were interviewed separately between September and December 1990. The rural people described their past, present and future situation in a clear, holistic, integrated manner. However, members of farm families hold different perceptions about development. Written material from verbatim transcriptions of in-depth ethnographic interviews,

observations and basic demographic data were used in the process of comparison of incidents and comparison of concepts to incidents; codes of higher level of abstraction are presented. Then, propositions and hypotheses were developed.

The literature stresses ecological sustainability in order to preserve natural resources so that increases in production can be maintained over a long period (IIED, 1982). The contribution from informants of this study, all of them nonprofessional rural people, is that although rural development has to avoid the destruction of natural resources and preserve the natural environment, human conditions and some material conditions are required so that development can be sustained over time (see Figure 6).

The development literature specifies planned changes. The informants recognized not only planned changes, but also unplanned changes from the natural environment such as the 1977 earthquake which was mentioned by almost all informants. Most of them experienced material depletion; also they have been observing an incipient ecological and increased social depletion in their rural communities. Predominant values identified are familism, friendship, unity, progress, giving and sharing, hope, respect, honesty as well as work, education and ethical rights.

They emphasized endurance as a human quality because life for them means "struggle". Also, the informants



emphasized other human attributes identified by the researcher as resilience, self-valorization including self-identity, self-esteem and self-confidence, and rootedness. These human qualities were determined by the researcher as necessary for rural sustainable development.


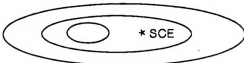
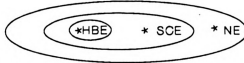
SOURCES	ENVIRONMENTS	CONDITIONS for SUSTAINABLE DEVELOPMENT
Literature		<u>Ecological sustainability:</u> Preservation of natural resources
Perception of Researcher		<u>Cultural diversity</u> Integration of native and scientific knowledge and practices
Perception of Informants		<u>Ecological conditions:</u> Preservation of natural resources (soil and water) <u>Material conditions:</u> Minimum material conditions <u>Human conditions:</u> Human qualities: endurance resilience self-valorization rootedness

Figure 6. Major environmental emphases of the concept of rural sustainable development derived from professional literature, researcher's and informants' perceptions.

Based on the results of the research, some implications for theory, research and practice are suggested.



Implications for Theory

1. The methodology used is appropriate for development of theoretical concepts.

2. Theoretical conceptualizations can be enriched with secular conceptualizations from nonprofessional views.

3. The research results can be compared with central concepts and emphases of different theories about social change and development.

4. Argentina's data united with data from other countries may extend and develop a theory of sustainable development.

Implications for Research

1. New research about the same topic and with the same methodology could be done with informants in other ecological settings in San Juan province, specifically farm families in the high mountain valleys and in the desert area.

2. Comparison with research results about the same topic and with the same methodology could be made with other informants in San Juan Province involved in rural development such as agricultural extensionists, social area extensionists, members of families without leadership

skills, owners and nonowners of land, members of resource-rich rural families and small-farm families in other ecological settings.

3. The conversational style of the interview including the original guide of questions was appropriate and very useful to cover all information needed from informants.

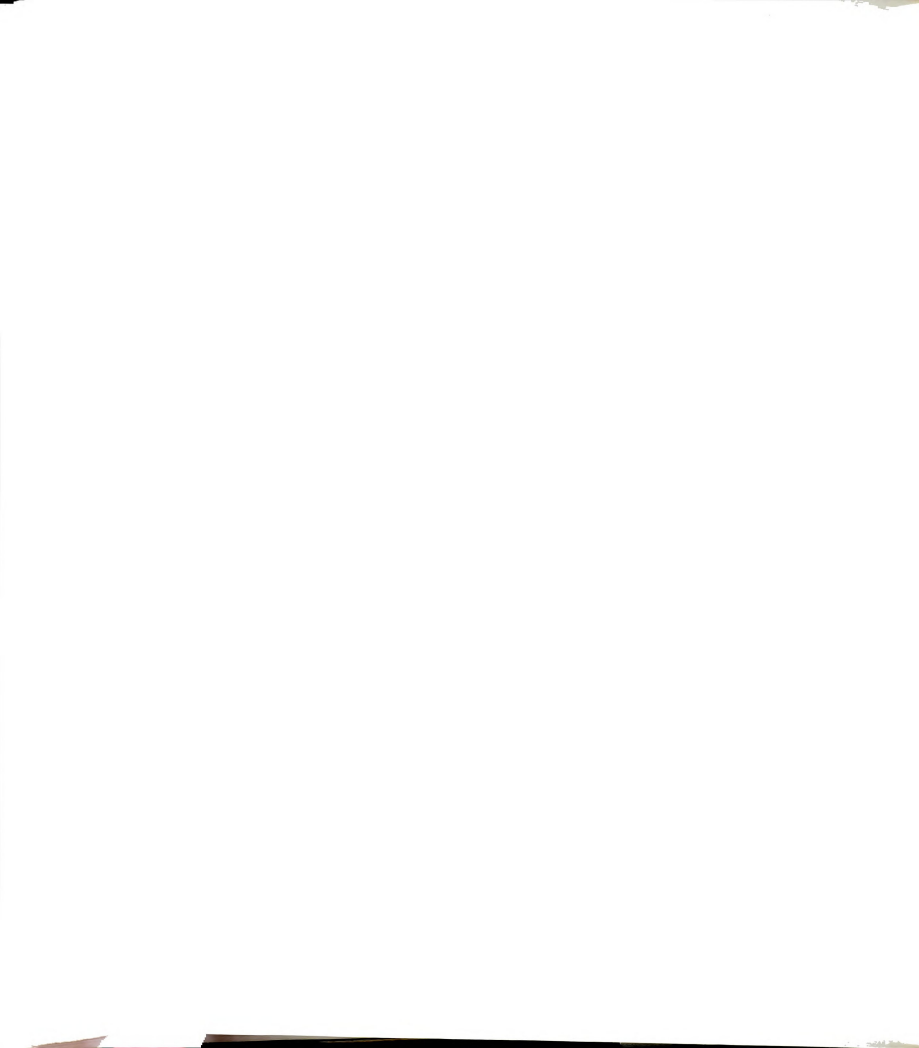
4. The sense of humor could be the focus for future research, especially as a strategy for survival in crises.

5. The inclusion of the emergent dimensions and categories of the concept of rural sustainable development in a more structured instrument would permit the weighting of the relative importance of social, material and ecological conditions for rural sustainable development.

6. There is a possibility of analyzing the data by family units in the future, focussing on family members' roles, gender and age, ethnic background, family values and power structure.

7. Comparison with new data from families in other parts of Argentina could be implemented in the future.

8. The methodology could be applied to the exploration of other concepts which are shared by professional and nonprofessional partners in development processes.



Implications for Practice

1. Policies need to be established to stop or reverse the rural migration trend. According to the recent data (Censo, 1991), rural migration in San Juan Province is alarming. Given existing conditions, this process will be perpetuated.

2. Policies need to be established to rebuild the possibilities of obtaining a livelihood in rural areas.

3. Consideration and services need to be given to families of small and medium sized producers and migrant workers as well as to larger commercial farms and resource-rich farmers. This is one of the most crucial areas for policy action now and in the coming decade to rebuild rural livelihood.

4. Leadership training programs should be considered as suitable methodology for Extension.

5. Change agents need to avoid the further erosion of human qualities in rural areas by using methods which enhance the family and community values and the creation of the human conditions which the rural producers and their family members see as essential. The human conditions of resilience and endurance, self-valorization including self-identity, self-esteem and self-confidence, and rootedness or identification were emphasized by rural family members



engaged in rural development.

Conclusion

The idea to be emphasized from the research experience is that in order to be sustainable, although rural development has to avoid the destruction of natural resources and preserve the natural environment, the rural people value human conditions and expect only minimal material conditions, like safe housing and drinking water, so that development can be sustained over a long period of time.

In order to accomplish this, the professionals who share development with these rural producers need to reconsider approaches and recognize alternatives to understanding of development. Professionals need to have the nonprofessional concepts in mind during planning, implementation and evaluation of development activities.

GLOSSARY

ASSUMPTION: "statements taken as given and not subject to direct empirical...testing" (Chafetz, 1978, p. 33).

CONCEPTS: abstract ideas generalized from empirical facts. In qualitative research, concepts are sensitizing instruments (Blumer, 1969; Taylor & Bodgan, 1984) that are used to illuminate social processes and phenomena that are not readily apparent through descriptions. "Building blocks" or basic content of theories (Chafetz, 1978, p. 45).

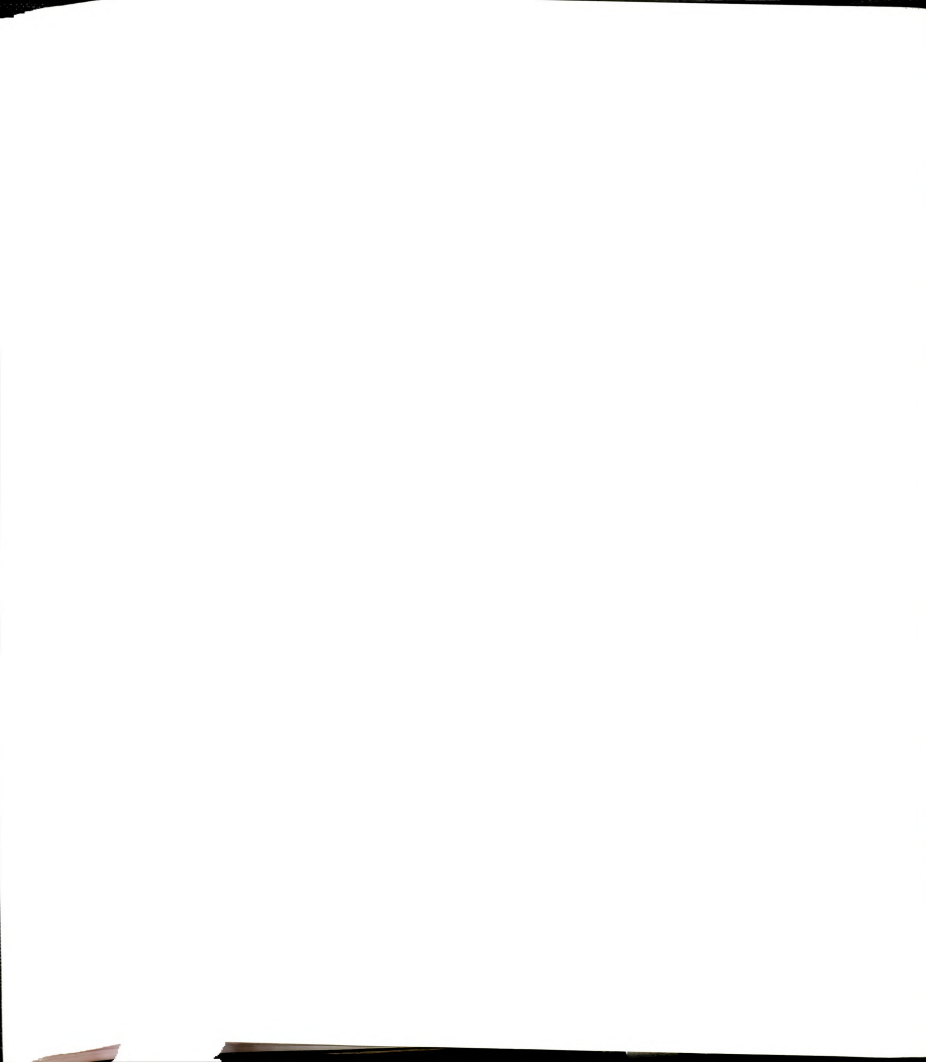
CONCRETE CONCEPTS: concepts from informants; their meaning "is derived indigenously from the culture studied" (Bruyn, 1966, p. 39 cited by Taylor & Bogdan, 1984, p. 133).

CULTURAL DIVERSITY: the variety of knowledge and practices, their different sources, their relative historical development and the patterns of distribution in a given human ecosystem at a given time (Avila, 1989).

ETHNOGRAPHIC: "refers to a basic approach within interpretivism that is common to anthropologists and sociologists... (It) usually mean(s) long-term, intensive studies involving observation, interviewing, and document review" (Noblit & Hare, 1988, p. 13).

EXTERNAL RELIABILITY: refers to the degree that independent researchers can discover the same phenomena or generate the same constructs in the same or similar settings (Bubolz, 1989). Although no study attains perfect external reliability, the uniqueness or complexity of phenomena and the individualistic and personalistic nature of the ethnographic process make approaching external reliability more difficult for ethnographers than for practitioners of other research models. The external reliability of the data can be enhanced "by recognizing and handling five major problems: research status position, informant choices, social situations and conditions, analytic constructs and premises, and methods of data collection and analysis" (Goetz & LeCompte, 1984, p. 214).

EXTERNAL VALIDITY: refers to the degree to which authentic representations can be compared legitimately across groups



(Bubolz, 1989). In most qualitative studies, as well as in many quantitative studies, the strictures required for statistical generalization may be difficult to apply. Rules for appropriate sampling improve the generalizability of quantitative studies; however, qualitative researchers may have to address rather different issues, especially those that obstruct or reduce a study's comparability and translatability.

INTERNAL RELIABILITY: refers to the degree that other researchers, given the previously generated constructs, can match them with data in the same way as did the original researcher (Bubolz, 1989). Qualitative researchers "commonly use any of five strategies to reduce threats to internal reliability: low-inference descriptors, multiple researchers, participant researchers, peer examination, and mechanically recorded data" (Goetz & LeCompte, 1984, p. 218).

INTERNAL VALIDITY: refers to the extent to which scientific observations and conceptualizations are authentic representations of some reality.

The claim of ethnography to high internal validity derives from the data collection and analysis techniques used...First, (long-time relationships) and collecting data for long periods provide opportunities for continual data analysis and comparison to refine constructs and to ensure the match between scientific categories and participant reality. Second, informant interviews...necessarily must be phrased close to the empirical categories of participants and are less abstract than many instruments used in other research designs. Third, (interviews as well as) participant observation(s are) conducted in natural settings that reflect the reality of the life experiences of participants more accurately than do more contrived or laboratory settings. Finally, (qualitative) analysis incorporates a process of researcher self-monitoring, termed disciplined subjectivity (Erickson, 1973), that exposes all phases of the research activity to continual questioning and reevaluation (Goetz & LeCompte, 1984, p. 221).

INTERPRETIVE: refers to the major paradigm that seeks "an explanation for social or cultural events based upon the perspectives and experiences of the people being studied." (Noblit & Hare, 1988, p. 12)

INTERSUBJECTIVITY: in qualitative research, agreement among relevant scientists becomes important and is a means to increase validity. It must be disciplined in qualitative research; researcher must limit intrusion of the self onto the participants and give them the psychological space to state their perspectives in their own words (Bubolz, 1989).

PARADIGM: general orientation toward a subject matter "based on assumptions concerning the nature of the reality in question, the questions that are important to ask of that reality," how they should be asked, how "best...to attempt to answer those questions," and what rules should be followed in interpreting the answer obtained. "In his seminal work, The Structure of Scientific Revolutions, first published in 1962, Thomas Kuhn called these general orientations 'paradigms'...." (Chafetz, 1978, p. 36).

POSITIVISM: refers to the major paradigm that is optimistic about the prospects for general theories and laws and largely seeks to develop them. The explanation in this paradigm is causal and predictive. Because the positivists see knowledge as accumulating, they have interest in developing approaches to research synthesis.

QUALITATIVE: "refers to the range of approaches practiced within the interpretive paradigm, including ethnography, case study research, intensive interviewing studies, and discourse analysis, among others" (Noblit & Hare, 1988, p. 13).

RELIABILITY: is concerned with the replicability of scientific findings. (It) "refers to the stable functioning of the research instrument" (Chafetz, 1978, p. 57). "... (R)eliability poses serious threats to the credibility of much ethnographic work. However, validity may be its major strength" (Goetz & LeCompte, 1984, p. 221).

VALIDITY: is concerned with the accuracy of scientific findings. It refers to the issue of correspondence with reality and "the degree to which that which is being measured corresponds to that which the scientist thinks is being measured" (Chafetz, 1978, p. 53); the degree of correspondence between operationalization and the theoretical concept. Establishing validity requires determining the extent to which conclusions effectively represent empirical reality and assessing whether constructs devised by researchers represent or measure the categories of human experience that occur (Pelto & Pelto, 1978).

APPENDIX A: GEOGRAPHIC LOCATION

Included:

1. Map of location of Argentina Republic.
2. Map of location of San Juan Province.
3. Map of location of selected communities.

Source: UNSJ. (1988).

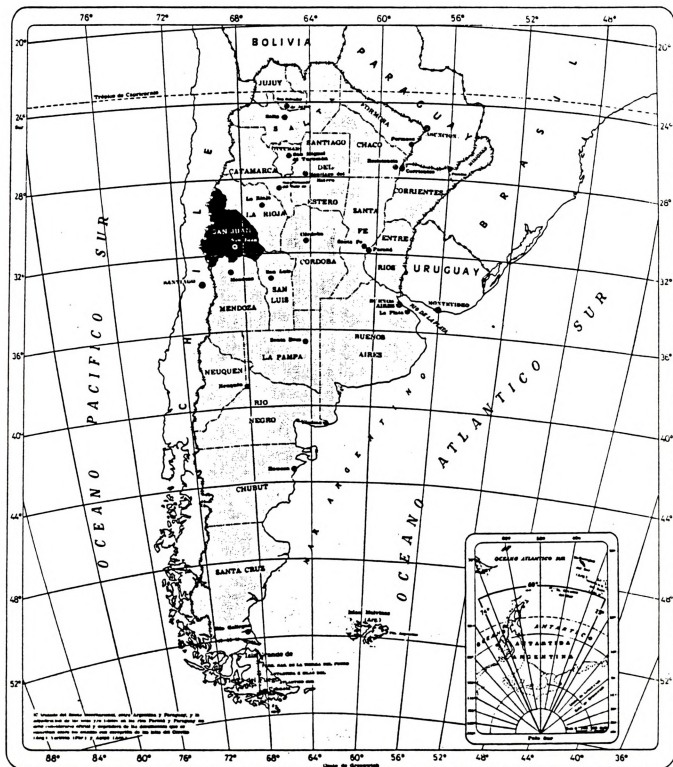


Figure A.1. Map of location of Argentina Republic.

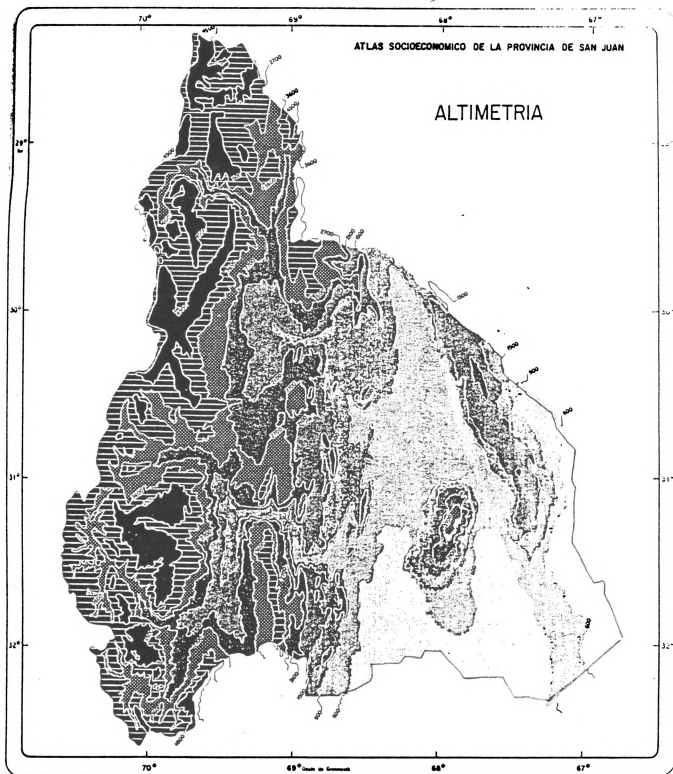


Figure A.2. Map of location of San Juan Province.

SISTEMA DE ASENTAMIENTOS HUMANOS NIVELES JERARQUICOS

The map illustrates the hierarchical structure of human settlements in San Juan province. The provincial boundary is shown as a large, irregular outline. Within this boundary, numerous towns and villages are marked with circles of varying sizes, representing their relative importance or population. The largest circle is located in the central-northern part of the province, representing the capital, San Juan. Other significant nodes include San Rafael, Mendoza, and San Carlos de Bariloche. A network of lines connects these nodes, showing the spatial organization and connectivity of the settlement system. The map also includes labels for various geographical features and administrative boundaries.

Figure A.3. Map of location of selected communities.

APPENDIX B: CONSENT FORM

The consent form approved by UCRIHS:

I understand that INTA San Juan (the National Institute of Agricultural Technology) is sponsoring an investigation of Perception of Sustainable Development by Small-Farm Families of San Juan, being directed by Dr. Linda Nelson, Professor from the Department of Family and Child Ecology at Michigan State University.

I understand that INTA Extensionist, Elena Avila, the researcher, will visit with me for the purpose of seeking information about the perception of development of parent, one adolescent and probably a grandparent, if available.

I understand that each participant from the family will be interviewed for approximately 2 hours.

I understand that the questions will be related to my ideas about the history, current situation and possible future of development in my community and in my family. Those ideas could be helpful for INTA San Juan.

I understand that I am under NO obligation to participate, that this will NOT affect my relationship with INTA San Juan.

I understand that all information that I give will be treated CONFIDENTIALLY and that my name will not appear on any written record or report.

I give my permission to allow the researcher to tape-record interviews and erase the cassettes when relevant information has been transcribed and coded.

I understand that I am free to discontinue my participation in the research at any time or REFUSE to answer any question asked of me without any consequences in my relationship with INTA San Juan.

I understand that my participation in the research does NOT guarantee any beneficial results to me,

I understand that, at my request, I can receive a summary of the research findings after the research is completed.

Signature of researcher.....
Signature by participants.....
Date.....

The form was adapted to the cultural conditions in rural Argentina. The English translation of the adapted consent form:

As you know, I was outside our country studying for a few years. One of the requirements that I have to fulfill is to do research. I am completing this assignment here, with you, and with members of other families in this place. I am not doing a survey; it is more a conversation about your life as (producer, homemaker, adolescent) and the place you know, about which you already have ideas. We will not only talk about the present, but also about the past and the future.

The conversation will be confidential; what you tell me will not appear in any report identified with your name. Of course, you have the right to participate or not, or stop at any time. If you permit me, I would like to use this tape recorder so I will not have to write everything. Since our conversation is confidential, when I have finished with the tapes, I will erase them. If you prefer, I will not use the recorder; if we use it, you can ask me to turn it off at any time. To be a little more formal about the cooperation of every person, this form was prepared to sign if you agree. If you wish, we can read it. In any event, I will leave you a copy.

Signature of researcher.....
 Signature of participants.....
 Date.....

APPENDIX C: DEMOGRAPHIC DATA OF INFORMANTS

Table D1. Self-recognition of Leadership Role in the Local Community

Family	Husband	Wife	Son/daughter
A	L	L	NL
B	NL	L	L
C	L	L	NL
D	NL	L	L
E	L	L	NL
F	L	L	NL
G	L	L	L
H	L	L	NL
I	L	L	NL
J	L	L	L

L : leadership NL: non-leadership role.

Table D2. Age of Informants

Family	Husband	Wife	Son/daughter
A	50	42	19
B	55	46	22
C	55	49	18
D	46	42	19 (F)
E	45	38	20
F	68	61	22
G	41	41	23 (F)
H	53	48	24
I	50	46	18
J	65	59	29 (F)
Range:	41-68	38-59	18-29
Mean:	52.8	47.1	21.4

(F): female or daughters; the others are sons.

Table D3. Education of Informants

Family	Husband	Wife	Son/daughter
A	SI	PC	SI
B	NS	SI	SC
C	SC	SI	SI
D	PC	SI	SC
E	PC	PC	PC
F	PC	PC	TI
G	PC	PC	SI
H	PC	SI	UC
I	SI	PC	SI
J	PC	PC	PC

Range: NS-SC PC-SI PC-UC

NS: no schooling
PC: primary complete (seven years of schooling)
SC: secondary complete (twelve years of schooling)
SI: secondary incomplete
TC: tertiary complete (fourteen years of schooling)
TI: tertiary incomplete
UC: university complete (seventeen years of schooling)

Table D4. Principal Occupation of Informants

Family	Husband	Wife	Son/daughter
A	SP	HM	ST
B	RW	HM/ST	UE
C	SP	HM	ST
D	RW	HM/ST	ST
E	RW	HM	RW
F	SP	HM	ST
G	RW	HM	UE
H	SP	HM	PR
I	SP	HM	ST
J	SP	HM	SB

SP: small producer HM: homemaker
RW: rural agricultural worker ST: student
UE: unemployed PR: professional
SB: small home-based business

APPENDIX D: GUIDE FOR INTERVIEW QUESTIONS

How would you describe this place to someone who has never been here and wanted to know what it was like to be here?

How long have you lived here? Where did you come from?

Has this community changed in your memory? Do you perceive any change in your family, province and/or country lives?

If yes, do you think it has become better or worse? Why?

If better, do you think that this/these change/s will be maintained for a long time?

If it is for worse, what do you prefer it to be?

What do you think will really happen in this community in the next ten years? Will you still be here? If not, where will you be?

(For the parents) What do you think will be the future of your children, especially (name the adolescent included)?

(For the adolescent) What do you think will be the future of your parents?

In addition to these basic core questions, some families may be asked additional questions, if appropriate, such as please describe any changes that you have tried to make in the community.

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