THE SEARCH FOR INSTRUMENTAL INFORMATION AMONG FARMERS OF THE BRAZILIAN NORTHEAST

Thesis for the Degree of Ph. D.

MICHIGAN STATE UNIVERSITY

Juan Diaz Bordenave

1966

This is to certify that the

thesis entitled

THE SEARCH FOR INSTRUMENTAL INFORMATION
AMONG FARMERS OF THE BRAZILIAN NORTHEAST

presented by

Juan Diaz Bordenave

has been accepted towards fulfillment
of the requirements for

Ph.D. degree in Communication

Major professor

Date February 22, 1967

O-169

THE SEARCH FOR INSTRUMENTAL INFORMATION AMONG FARMERS OF THE BRAZILIAN NORTHEAST

By

Juan Diaz-Bordenave

A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Communication

1966

ABSTRACT

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by Juan Diaz Bordenave

The general problem under study in this thesis is the dynamics of the process of searching for instrumental information. The specific goal is to identify some sociological and psychological factors that are associated with that process.

A conceptual analysis of the factors found in previous studies related to communication exposure and receptivity resulted in the development of a frame of reference which attempted a coherent explanation for information-seeking behavior. This frame makes use of motivation theory, particularly of the motive aimed at reducing cognitive dissonance. The dissonance that moves the person to search for information is assumed to be the perceived discrepancy between the individual's present range of possible decision-making and the desired one. Information-seeking behavior is seen as an adaptive tool of the person to reduce his dissatisfaction with the present situation.

The range of possible decision-making is determined by social structural factors which establish what decisions the individual must take because of his status and roles, and the decisions the individual can take because of his education and literacy. Two additional variables, self-evaluation and perception of possibilities for situation improvement are thought to influence the translation into behavior of the motive stimulating the search for information.

Juan Diaz Bordenave

The setting for the research was a rural county of the Brazilian state of Pernambucco. Two hundred and twenty-one respondents were interviewed. Chosen randomly, the sample included landowners, sharecropers and wage workers. Statistical analysis of the responses was undertaken, using factor analytic and correlational techniques.

The main findings of the research were: a. the range of possible decision making determines to a decisive extent the intensity of information-seeking in a rural social system which, like the one prevailing in the Brazilian Northeast, is characterized by a rigid, semi-feudal structure. b. Information-seeking has a low but significant correlation with the dissatisfaction of the farmer with the present productivity of the land and with his present level of knowledge. It is not related to dissatisfaction with the production factors he owns nor with his present residence and occupation. c. Although it was assumed that dissatisfaction with the situation is a dimension independent of the structural position of the individual, it was found that the respondents with wider ranges of decision-making tended to be more dissatisfied than the ones with narrower ranges. d. Self-evaluation was related to information-seeking, as expected, but the relation between information-seeking and the perception of possibilities for situation improvement did not reach significance.

While the results do not appear to basically contradict the motivational framework which helped develop the variables and the hypotheses, they do not give enough evidence to accept it, but justify further explorations along the ideas incorporated in the framework.

ACKNOWLEDGMENTS

My deep gratitude goes to every person who helped make this thesis possible: I owe a very special debt to Dr. Archiebald O. Haller, who as the chairman of my doctoral committee and as an unfailing and patient friend, has given me both technical advice and moral support since the planning of this thesis in Brazil's Rural University of Km 47 until its completion. My appreciation is extended to the members of my doctoral committee, Drs. David K. Berlo, Erwin P. Bettinghaus, Karl Eicher and Eugene Jacobson.

My debt is also great to the institutions which provided the financial means to carry out the research, namely, the Land Tenure Center, University of Wisconsin, and the Rockefeller Foundation. The Land Tenure Center financed the expenses involved in the field research and the statistical analysis. The Rockefeller Foundation took care of my transportation and living costs during the time of my doctoral studies and during the time it took to complete the field research in Brazil.

I wish to thank the extremely valuable contributions of Dr. Bryant E. Kearl, from the University of Wisconsin, and Dr. Frederick B. Waisanen, from Michigan State University.

Four members of the Land Tenure Center deserve my special recognition for their sympathetic help: Drs. Raymond Penn, Herman Felstehausen, William Thiesenhusen and Mrs. Patricia Hessler.

In Brazil, my appreciation goes to the persons who made possible a residence of three months at the Rural University of Rio de Janeiro, in order to discuss with Fullbright Professor Haller the design of my thesis: I want to thank the Reitor, Dr. Iderzio Luiz Vianna, and Professors Otto Lyra Schrader and Francisco Escobar Duarte. In Recife, I am very grateful to Dr. Heraldo Soutomaior, sociologist of the Rural Social Service and SUPRA. Without the support and facilities provided by Dr. Soutomaior, the field research in Timbauba would have been a great deal more difficult.

I also wish to thank the members of my interviewing team who shared with me the satisfaction of discovering "the other Brazil" in the hills of rural Pernambuco.

Closer to home, my sincere thanks go to Armando Samper, Director General of the Interamerican Institute of Agricultural Sciences of the OAS -- my boss -- who throughout my three years of graduate work and thesis-making, gave me every help and support that I needed.

I am indebted to Miss Julieta Fernandez, my secretary, for typing and improving the first draft of this thesis.

And finally my deep gratitude to Maria Candida, my wife, who accompanied me to East Lansing, Rio de Janeiro, Recife, and San Jose, Costa Rica, complaining no more than necessary, in the long and arduous road to the Ph.D.

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CHAPTER I

INTRODUCTION

A. The Purpose

The general purpose of this thesis is to provide new information about the dynamics of the communication process. Its main specific objective is to test certain hypotheses about some of the social and psychological conditions under which the intensity of Northeastern Brazilian farmers' search for information varies. A secondary objective is to provide a picture of the communication process in an underdeveloped rural area of Latin America.

B. The Problem

The communication process is an integrated part of the person's psychological and social life. As such it should be considered as one of the tools the person uses to cope with his environment and adjust to it. As a natural consequence of this adaptive role of communication, its use by the individual should be closely dependent upon his psychological idiosyncrasies and upon his position in the social structure. One example may illustrate this point:

> A, B, C and D are four spinsters living in a small town of Minas Gerais, Brazil. They are sisters. A, the eldest, performs the role of the extinct parents and acts as the spokesman for the household's formal external relations. B, the second in age, runs the logistics of the house: market purchases, cooking, money accounts, etc. She is the manager of the household. C, a retired school teacher, is kept busy by some high school pupils to whom she gives private lessons. C is the "intellectual" of the family. D, the younger sister, 55, always used to be moody and dissatisfied. Her sisters were not able to find the reason

> for this discontent. One day a radio set was given to the sisters by a relative. Soon after the ratio set was introduced in the home, D's behavior started to change. From that day on, she never missed a newscast. She is up to date with what is going on in the town, in the state, in the country and even in the world. She persuaded her sisters to subscribe to a newspaper. She buys several magazines. She has found herself a role: that of information-purveyor, and this function gives her status not only in her home but in the neighborhood as well. She is consulted, she is paid attention to. She is not moody any more.[1]

Once the premises are accepted that communication is an adaptive tool of the person, and that structural limitations and individual differences determine the use of this tool, one then is faced with the question: Which are the socio-psychological factors related to the communication process and how are they related? This is a very broad question, of course, that will keep researchers occupied for a long time to come. The present thesis focuses only on one aspect of the communication process: that os the receiver's search for instrumental information, i.e., his exposure to communication content which could help him increase his or his family's access to economic and political benefits.

C. Importance of the Problem

This problem is theoretically relevant. It is related to the question of how communication functions as an adaptive tool for personal adjustment to the environment. Thus it is a problem in the line of Merton's "modes of adaptation" (32) and to the several attempts (9), (31), (41), (49) to extend these modes of adaptation to problems of alienation, stability and change.

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[1]This case was personally observed by the author.

The search for instrumental information is a search for change. Therefore, the present problem is closely related to the general dimensions of change-proneness, innovativeness, achievement motivation, level of aspiration, entrepreneurship, leadership and decision-making.[1]

Because of its relevance to change, the present problem is, in not too remote a way, related to the general problem of socio-economic development. Moreover, the operational setting in which the research for this thesis was carried out, as it will be shown later, brings out even closer the relationship of this problem to socio-economic change.

D. The Contributions

Specifically, it is hoped that this study will compare the effect of social structural and psychological factors on the individual's search for information. In the process of doing this, the study also contributes a description of the communication process in an underdeveloped rural area of Latin America, thus increasing the available knowledge on the dynamics of underdevelopment in general.

E. The Limitations

The problem this thesis intends to attack can be expressed as

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[1] The importance of information-seeking as a basis for decision-making within organizations is being realized more and more by economists. In a lecture about new developments in the theory of the firm, Simon (42) says: "If information-seeking is becoming significant for economic theory, it is because attempts to apply theory to the actual decision-making problems of the business firm have shown what a crucial role is played in decision by imperfections in our information and limits on our ability to calculate".

Simon quotes Stigler who complained about underappreciation of the

follows: which social and psychological factors are related to a person's search for instrumental information? It is timely to clarify the intended meaning for the word "related". There is always the danger of confusing the role of factors which cause a certain type of behavior with the role of factors which are related to that type of behavior but which may or may not be its cause. Science's criteria to establish a causal relationship are very strict. This thesis does not purport to comply with those criteria; it can only show whether or not there is a statistically significant relationship between variables.

Selection of the variables was based on previous sociological and psychological theory research, and can be considered more or less universal variables; however, their effect is always conditioned to the particular culture. While the dissatisfaction with the present situation, for instance, may be a universal variable, its way of affecting behavior will probably be different in the urban culture of Eastern United States than in the Pueblo villages of the Southwest.

The results of this project can be generalized technically to the municipio or country of Timbauba, in the Northeast of Brazil. The writer would suppose, however, that they may apply fairly well to farmers in other areas of the Agreste[1] and Sertao, and it is possible that they apply to other rigidly stratified rural social systems. The latter possibility, however, is mere conjecture.

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role of information: "One should hardly have to tell academicians that information is a valuable resource: knowledge is power. And yet it occupies a slum dwelling in the town of economics".

[1]See Glossary page for definitions of all Brazilian terms.

As in all research, the findings of this study may have been influenced by the particular design used, the measurement tools employed and by the operational conditions. Several of the measurement instruments employed are admittedly crude. Although efforts were made to plan and carry out the research with the utmost respect for cultural and scientific rigor, the field nature of the study in several circumstances did not permit the precision and control which would be desirable.

This effort does not pretend to yield decisive confirmation or rejection of the hypothesized relationships. The hypotheses tested in this study are exploratory, intended to orient more refined efforts in the future if the results obtained make those efforts worth undertaking.

F. Organization of the Thesis

Chapter II presents the general theoretical foundation of the problem and the variables whose relationships are being ascertained. This includes a definition of all the relevant terms to be used and a review of the literature pertinent to the problem at hand. The variables are conceptually defined and their hypothesized relationships made clear.

Because understanding the operational translation of the variables requires knowledge of the social and human characteristics of the area in which the study was carried out, Chapter III describes the geographical setting, with emphasis on the Human aspects of land and agriculture, as well as on communication aspects.

Chapter IV presents the research design, giving the operational definitions of the variables, the measurement techniques, the operational

hypotheses to be tested and a description of the sample and of the procedures employed to obtain it.

Chapter V summarizes the results obtained through the statistical analysis of the data, and relates the results to the operational hypotheses previously presented. A summary of the behavioral consequences of the confirmation or non-confirmation of the hypotheses closes the chapter.

Finally, Chapter VI presents the summary and conclusions of the study, its limitations, theoretical contributions and practical implications, as well as suggestions for future research emerging from the present investigative effort. A list of bibliographical references is provided at the end of the thesis, followed by some Appendices and a Glossary of Brazilian Terms.

G. Summary of Chapter I

In this chapter the central problem of the thesis was presented. It consists specifically in testing some hypotheses about the relationships between some variables of socio-psychological nature, and the search for instrumental information. It was explained that the hypotheses are based upon the assumption that communication behavior is one of the adaptive expressions of the person's total effort to adjust to his environment.

The importance of this problem for theory and for practical purposes was suggested by listing the contributions expected from the present study, within its particular scope and limitations. The general organization of the thesis was specified.

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It was also explained that a secondary specific objective of this project was to attempt a comprehensive description of the communication process in an underdeveloped rural area of Latin America.

CHAPTER II

THEORETICAL FOUNDATION AND CONCEPTUAL BACKGROUND

A. Introduction

The objective of this chapter is to present the theoretical framework upon which the hypotheses of the research were based. To that end a brief statement of the meanings of the technical terms will be presented. This is followed by the main body of the chapter, which includes a review of literature and a conceptual summary. The latter leads to a frame of reference of "model" which is used in Chapter IV to generate hypotheses.

B. Definitions of Analytical Terms

Attitude: Cognition of and affective relationship toward an object or class of objects.

Communication: The process by which persons affect each others' cognitions, affections and actions by the use of symbols organized into messages.

Communication medium or channel: Any vehicle, personal or mechanical, used for the transmission of messages. When the impersonal media are capable of transmitting messages to many separate receivers at one time, they are called mass media.

Communication content: The materials made available to the receivers by the communication media. Examples: information, music, propaganda, etc. For the purpose of this thesis, communication content is classified in two categories: consummatory content and instrumental content.

Consummatory content: Type of communication content which the individual receives to produce a sensation of well being in himself, without application to the modification of behavior with respect to a more distant goal. Examples: music, humor, sometimes gossip, poetry, etc.

Instrumental content: Type of communication content which the individual receives to use in the making of decisions related to his and his family's access to goods, services and rights.

Decision-making: Selection of a course of action.

Hypothesis: Statement of a relationship believed to exist between two or more variables, given that the statement has been derived from empirical observation of events or from theory.

Motive: Permanent human tendencies to satisfy basic needs like sex, food, stimulation, cognitive dissonance, etc.

Motivation: The variable degree to which motives press the person to commit a certain action oriented toward its characteristics goal, this degree presumably depending upon the strength of the motive and upon circumstantial factors.

Perception: A mental operation by which the person assigns meaning to objects after his senses have been affected by them.

Personality: The cognitive and affective relationships of a person to objects.

Self-evaluation: The attitude of the person toward himself as occupant of his diverse roles in society ("I am a good citizen," "I am a bad father"). It is distinguished from self-concept, i.e., the awareness of consciousness of one's identity ("I am myself").

Situation: The variable characteristics of the physical and social environment as they relate to the person.

Social structure: An arrangement of positions or statuses, variously created and maintained, and the respective network of relationships among persons or actors.

Social stratification: The distribution of status, power and wealth in a society. Example: in a semifeudal social structure these attributes are concentrated in the hands of the landowners, while in an equalitarian social structure they are more homogeneously distributed among the population.

Theory: A body of interrelated facts, concepts, postulates, principles and laws, originally based on empirical observation of some aspects of matter and life, and organized through logic- mathematical speculation into abstract generalizations.

Variable: Any characteristic of the conditions studied in a research design which is subject to change. Dependent variable is the variable whose change is being measured, and independent variable is the one which is expected to co-vary with the changes in the dependent variable.

C. Theoretical Foundation and Conceptualization

1. Review of previous studies

The present section of this thesis will review those studies which have shown some factors to be related to the search for, the exposure to, or the receptivity to communication, particularly to communication of a non-escapist, instrumental nature. The purpose of this review is to arrive at a list of the diverse factors found related to information-seeking.

Studies which revealed the influence of personal or psychological factors will be reviewed first.[1]

Festinger (19) found that search for information was one of the ways used by people to alleviate cognitive dissonance: car owners tend to expose themselves to advertisements that commend the make of car that they have bought more than to ads extolling the virtues of other makes that they might have chosen.

Rokeach (39) studied the use of information in the framework of his "open mind -- closed mind" personality dichotomy and found a negative relation between dogmatism or closed-mindedness and the acceptance of new information, unless the new information is supported by a respected authority.

Eisenstadt's (14) study of Israeli immigrants highlighted the relation between the qualities of the leaders and elites and the people's receptivity to communication. He found

> the predisposition to receive non-technical communication to be largely dependent on the compatibility between the status aspirations of the individual and the elite's ability to gratify those aspirations.

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[1]The psychology of search for information or knowledge, as a specific aspect of communication behavior, has been analyzed by Berlyne (4) under the label of "epistemic behavior". The goal of epistemic behavior in general is, for Berlyne, to relieve mental conflict and guide the choice of action. Berlyne reports that Cattrell's factor analysis of human motives has repeatedly turned up an "erg" or drive, varying in prevailing strength from one individual to another, that he calls "exploration" or "curiosity":

> It is represented in desires to read books, newspapers, and magazines, to listen to music, to know more about science, to satisfy curiosity about everything going on in one's neighbourhood, to see more paintings and sculptures, to learn more about mechanical and electrical gadgets, to see a good film or play.

One secondary but interesting finding was that:

> whenever the contact between elite and non-elite members is severed without personal relation with new elites being established, the non-elite members become predisposed to participation in media which confer on them vicarious identification and anonymous participation in the social system. The most outstanding of such media are the mass communication media of modern society.[1]

Eisenstadt (15), after studying communication behavior of immigrants to a Jewish settlement, concludes that:

> the individual is receptive to those communications which help him to perform the meaningful roles to which he has expectations on the basis of his status-image.

He believes, moreover, that:

> the needs of an individual are organized in some sort of a system, and it is the type of this organization that determines his communication receptivity.

Within such personality systems, Eisenstadt emphasizes two foci:

a. The individual's total status-image: the hierarchy of values and community identification according to which he perceives and evaluates himself as a total personality within the social setting.

b. The various role-expectations which he maintains in relation to the various roles which he has to perform within the social system.

Eisenstadt summarizes his findings by stating that:

> one of the main functions of communication within the social system is to maintain effective performance of social roles inherent in it, to assure full participation within its various spheres, and to maintain the members' identification with its ultimate values and symbols. (15)

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[1] This findings might be useful as an element of judgment in the analysis of the penetration of radio in underdeveloped areas, together, naturally, with the fact that radio is a more available medium for a largely illiterate audience than printed media.

While Eisenstadt believes that communications are received and attended to in so far as they tend to gratify the various general needs of the personality, it is apparent that the context in which he carried out his studies influenced him to give an almost exclusive importance to the social needs satisfied by communication behavior, leaving out the more personal or intraindividual ends. (16)

Lerner (27), in his investigation of the relationship between social and personal characteristics, communication behavior and socio-economic development, carried out in several countries of the Middle East, classified the people into Traditionals, Transitionals and Modern, according to sociological and psychological characteristics:

Table 1.

		Literacy	Urbanism	Media Participation	Empathy	Opinion Range
Modern		+	+	+	+	1
	A	-	+	+	+	2
Transitional	B	-	-	+	+	3
	C	-	-	-	+	4
Traditional		-	-	-	-	5

In this typology, the most dynamic element for a world in the initial stages of development seems to be the Transitionals, for the true Transitional is defined dynamically by what he wants to become:

> What differentiates him from his Traditional peers is a different latent structure of aptitudes and attitudes. The aptitude is empathy - he "sees" things the others do not see, "lives" in a world populated by imaginings alien to the constrictive world of the others. The attitude is desire - he wants really to see the things he has hitherto "seen" only in his mind's eye, really to live in the world he has "lived" in only vicariously.

Lerner's words define the person considered in this thesis as "dissatisfied with the present situation." For Lerner, the Transitionals are the "key for the changing Middle East."

What makes the difference among his three types is, for Lerner, the desire "to have opinions" of one's own. For the author of this thesis, however, to have opinions of one's own is but one of the aspects of a more general desire: a differential motivation to increase the range of possible decision-making too constricted by traditional society.

Otis Oliver Padilla (35) studied in Puerto Rico the relationship between value and channel orientations, and related these variables to the diffusion and adoption of new ideas and practices. Using the Kluckhohn and Strodtbeck (26) theory of value orientations, Oliver's examination of the dairy farmers' dominant value patterns led him to establish the categories: traditional, transitional and progressive. Also, utilizing Deutschmann's (10) channel orientation model, farmers' orientations were classified as egocentric, intra-community, extra-community near, extra-community far or impersonal.

Although he failed to find the expected relation between value and channel orientation at the awareness stage of the diffusion process, he found the expected relation confirmed during the interest stage. The expected relations were:

Traditional value orientation related to Egocentric or Intra-Community Channel orientation

Transitional related to Extra-Community (near)

Progressive related to Impersonal (Extra-Community far).

Oliver also tested for relationships between values or communication orientation and the frequency of mass media exposure, predicting a positive relation between progressiveness and frequency of exposure. His findings showed no significant relationship between progressiveness and overall media exposure. However, there was a significant positive relationship between progressiveness and exposure to newspapers and farm magazines. (35)

In the context of this thesis, it is interesting to note that Oliver found progressive value orientation, and its correlated high exposure to certain media directly related to large scale of operations, innovativeness, degree and time of adoption and practices, and organizational activity.

We will now review several studies which dealt with sociological characteristics related to the search for and acceptance of information.

Emory, Oeser and Tully (17) found in Australia that the farmer's degree of "urbanization" and "large scale farming" were the determining conditions making information channels effective. "Urbanization" in their study was indexed by war service, an urban (or urbanized) family of orientation, an urban job desired for the sons and postprimary education. The authors declare that:

> it is this factor (urbanization) which affects degree of exposure to mass media (agricultural press and radio), attendance to the field days and close contact with the District Agricultural Officer; these in turn create an attitude of mind receptive to new ideas....

They add that:

> previous researches have shown that postprimary education is far and away the most powerful agent

> for introducing the urban ideology into rural areas, for creating that instrumental attitude to knowledge (as contrasted with a personal or traditional "craft" view.
>
> These authors also found that:
>
> Reading and listening - particularly paying attention to non-escapist matter and broadcasts, are positively related to age, sex, education, socio-economic status and the size of a particular community of reference.

Helen C. Abel (1) studied in Canada three clusters of characteristics supposedly related to the farmers "taking advantage of available opportunities to expand their farming knowledge." Those clusters are:

A. Characteristics of the farm itself

B. Characteristics of the farm operator as other see him

C. Individual characteristics of the farm operator.

Abel tried to see which characteristics were associated with the farmers using all four, or less than four, of the following ways of getting farming information:

1. Talking with other people

2. Making use of mass-media (printed material and radio)

3. Personal observation of other farms

4. Attending organized meetings.

A. Among the first group of characteristics - <u>those of the farm itself</u> - Abel included the following:

(1) Municipal area in which the farm is located
(2) Soil rating of the farm
(3) Size of the farm
(4) Proportion of improved land on the farm
(5) Number and type of income-producing enterprises on the farm
(6) Extent of the farm business (as measured in Productive Man Work Units)

(7) Size of labor force (as measured in man equivalents)
(8) Labor efficiency (which is a measure of the productive work accomplished in terms of the number of people working full or part time on the farm).

She found that the particular municipal area in which the farms are located has no significant relation to the number and type of ways in which the operators of these farmers usually get farming information. However, all of the other seven were significantly related.

B. Among the second group of characteristics - objective characteristics of the farm operators - Abel included the following:

(1) The country in which the respondent was born.
(2) The length of time each respondent had operated the farm on which he was living when he was interviewed in the spring of 1952.
(3) The nature and number of the farm operator's working experiences.
(4) The age of the farm operator.
(5) The education of the farm operator in terms of the grades in school which had been completed.
(6) His stage in the "family life cycle" (which considers his marital status and the presence and age of children in the home).
(7) The presence of certain material possessions in the home (which is a measure of his level of living as determined objectively by other persons).

No evidence of a significant nature was found which would indicate a real relationship between the ways in which a farm operator usually gets farming information and (1) the country in which he was born or (2) the length of time he had operated his farm. The other five personal characteristics all showed certain significant associations with the ways in which the farm operators usually get farming information.

> Respondents who most fully utilize opportunities to increase their farming knowledge tend to be: Those who had had four or more different working experiences, including both farm and non farm work; those who had 8

or more grades of schooling and were about 40 years of age; married and living with wife and with no children in the home or married and living with wife and young children (14 years of age or less); and those having a relatively high material standard of living.

C. In regard to the individual characteristics of the farm operator Abel studied the following psychological and behavior differences:

I. Psychological characteristics

(1) The respondent's opinion of the size of the general farming area in which his farm is located.
(2) His intentions about remaining or leaving farming as an occupation.
(3) His intentions about making future changes in his farming enterprises.
(4) His description of what the term "level of living" means to him.
(5) His own rating of his family's particular level of living.

II. Behavior characteristics

(6) The degree and nature of his contacts with other people (social participation).
(7) The extent to which he visits other farmers for the purpose of discussing farming.
(8) The extent to which he had recently received or passed on any new ideas on farming.
(9) His contact with the local district agriculturalist.

All except the first of these individual characteristics were found to be significantly related to the ways in which farming information is usually obtained by the respondents in this study.

It is unfortunate that Abel did not provide any theoretical reasons for her choice of these groups of characteristics, and for her grouping them together in meaningful patterns or dimensions.

Thomas L. Blair (5) studied the relation between social structure and information exposure in Rio Grande do Sul, Brasil. He chose a sample of agricultural workers (A), factory workers (F) and office workers (O),

and hypothesized that: (a) would have the lowest average rank on degree of information exposure; (f) the next highest and (0) the highest average rank in terms of each of the following 13 factors:

Mass Media

1. Literacy and newspaper readership (significant).
2. Frequency of newspaper readership (significant).
3. The extent of newspaper readership and radio ownership (significant).
4. "Cosmopolitan-ness" of radio stations listened to (in hypothesized direction A F 0 but not significant).

Social visiting

5. Persons visited most often by occupation (significant).
6. Persons visited most often by kinship (in nonhypothesized direction F A 0, and significant).
7. Visiting kin who are in the same occupational position (significant).
8. Nonkinship visiting of persons in the same occupational position (significant).

Contacts with persons from outside

9. Frequency of contact with persons from other rural localities (in nonhypothesized direction A 0 F and not significant).
10. Id. with persons from capital city (in nonhypothesized direction A 0 F and significant).
11. Id. from other states (in nonhypothesized direction and significant).
12. Id. from other countries (significant).
13. The most distant place from which persons have been contacted (in nonhypothesized direction A 0 F and significant).

Blair concludes that the study revealed three specific patterns of information exposure, each related to a specific occupational group:

Type I Persons typically illiterate (rural agricultural workers):

a. primacy of interpersonal information exposure
b. exposure to new information infrequent
c. content of information received: local and provincial
d. oriented toward traditional "folk" values and patterns

Type II Persons typically semiliterate (urban factory workers):

a. primacy of oral and direct exposure to mass media; oral exposure supportive of direct exposure
b. exposure to new information more frequent than Type I
c. content of information received: often about non-local occurrences
d. transitional between traditional folk values and those of modern society

Type III Persons typically literate (urban office workers):

a. primacy of direct exposure to mass media
b. content of information received: urban and cosmopolitan
c. exposure to new information a daily occurrence
d. oriented toward modern values common in large Brazilian cities

In the studies carried out by Deutschmann and Mendez (11) in Cholena, Guatemala, and by Deutschmann and Fals Borda (10) in Saucio, Colombia, the central goal was "to discover how people receive information about possible changes in their ways of life and how they then act or fail to act upon such information." A key concept in both studies was the "communication channel orientation," i.e. the tendencies of individuals to use some available sources of information more heavily than others.

Channels of information, for the authors, are:

> a complex resultant of the habits and characteristics of individuals, the social structures in which they are imbedded, and the modern, impersonal methods of communication which are increasingly being developed.

They believed that channel orientations will be associated with the amount of information that an individual has received, as well as with the time of its reception; further, that the communication orientation will be related to the tendency to adopt innovations.

In Cholena they found that "media exposure opportunity" was positively related to literacy and negatively to age. A slight correlation was found between level of living and media exposure opportunity. They found relationships in the expected directions between adoption of practices and exposure opportunity to media.

In the Saucio study, Deutschmann and Fals Borda attempted first to obtain data on the demographic factors which "predispose" one to the reception of communication. They found that literacy made the larger significant difference but that size of land owned was also a very good indicator. The relation of communication use, and age, was expected to be negative and the result confirmed the expectation but weakly. They also confirmed an expectation of direct relationship between mass media use and number of dependents in the family.

Carried out in an urban setting (the city of San Jose, capital of Costa Rica), the study on mass media use directed by John McNelly and Augusto Torres (30) indicated significant association between the opportunity for exposure to communication media and relative superiority in education, income and occupation.

The relevance of socio-economic factors to the exposure to instrumental information is also demonstrated by a study by Archibald O. Haller, Joao Bosco Pinto and Francisco Escobar (22). This study replicated in 1962 a study carried out by Kolb and Vasconselos in 1953 (48), in the rural hinterland of four county seats of the state of Rio de Janeiro. The data showed that contact with agricultural services was different for different occupational classes:

Occupational classes	Percentage of families having one or more family-to-service agricultural contacts
Farm owners	27% (of 120)
Nonfarm workers	7% (of 215)
Sharecroppers	7% (of 55)
Farm laborers	3% (of 180)

In 1963 a field experiment was undertaken in Ecuador by Paul Spector and Torres (45). The experiment consisted of comparing the effectiveness of two communication media combinations in the promotion of certain practices, such as construction of latrines, construction of smokeless stoves, canning marmalade and vaccination against small pox. People were divided into participants and non-participants according to their involvement in the adoption of these practices. The authors report that "regardless of communication mode, participation is associated with education, literacy, social interaction, and greater interest in mass media." (45) In relation to socio-economic status:

> although the interviewers and analysts in this study gained the strong impression that participants were wealthier than non-participants, none of the economic measures used indicated this at the established statistical level. However, participants fairly consistently owned property, lived in houses with more rooms and more facilities,....and tended to be merchants, craftsmen, or farmers rather than domestic or unskilled laborers. (45)

In a study which served as his Ph.D. thesis at the University of Wisconsin, Myren (34) interviewed 1,659 farm families and found strong relationships between the use of mass media and size of dairy herd, income, education and age.

Bostian (6) reports results of interviewing Wisconsin farmers with respect to several personal characteristics, use of time and communication behavior. He found that age, level of living, size of the herd and size of the cropland were correlated to high mass media use. Amount of education and amount of income were not related to high mass media use, nor were tenure characteristics (full ownership, part ownership, renting or family tenancy). Family size was inversely correlated with mass media use, but the negative correlation was low. Reading showed an association with the amount and kind of work a farm operator did, but radio listening and television viewing did not. Reading and listening to the radio were positively associated. Television viewing, however, was not related to either listening or reading. In fact, it was somewhat negatively associated with use of these two media. Part-time farmers spent significantly less time reading and listening to the radio, but more time viewing television.

A study by Felstehausen on Dutch farmers' knowledge and comprehension of economic terms is also included in this review of literature, under the assumption that knowledge of instrumental information is an index of receptivity to or search for that type of communication content. Felstehausen (18) hypothesized that persons with wider experience -- more management responsibilities, contacts, education, reading, etc.--would have higher economic knowledge. He found that farmers scored higher than nonfarm high school students in terms related to credit, investment, and finance, government programs and security, and that education, organization membership, mass media usage, and farm productivity per man were significant variables in

"explaining" the level of economic knowledge among farmers.

Again, assuming that high exposure to communication is an index of receptivity to instrumental content, we include in this review a study called "Receptivity to New Ideas and Rural Exodus in a Colonization Area" by Fliegel and Oliveira (21). These authors examined, in Rio Grande do Sul, Brazil, the possibility of a relationship between the penetration, in the rural zone, of new ideas capable of increasing agricultural production, and the reduction of the rural population. The authors explain that it is logical to expect that the rural worker who is more receptive to new ideas in agriculture will also accept with more facility other new ideas, such as, for example, that of a non-agricultural profession. The authors constructed an index of receptivity to new ideas, consisting of the following items:

1. Literacy.
2. Radio listening.
3. Mention of mass communication media, agricultural organization or extension agents as sources of information about farming.
4. Membership in some agricultural organization or cooperative.
5. Residence less than 6 km from a population center.
6. Mention of commercial skill, knowledge or practice as qualities of the men considered most influential in the area.

The following results were obtained:

a. The farmers more open to new information are the ones who more easily adopt the new agricultural practices available.

b. The more receptive farmers did not have more definite plans for farm improvement or for leaving agriculture, but were more eager to combine the rural activities with secondary occupations. (The latter findings, however, was confirmed only for the farmers with less than 10 hectares of land).

c. More receptive farmers prefer non-agricultural activities for their sons, but these sons tend to migrate or abandon agriculture only non-significantly more than sons of less receptive farmers.

Wilkening (50) studied the sources of information to which Australian farmers apply, and the characteristics of these farmers that are related to their search for information. He found that management skills are positively associated with the use of technical sources of information. However,he found that influences other than information sources apparently determine the manner in which decisions are made.

As his contribution to the book, Studies of Innovation and of Communication to the Public, Wilkening (51) wrote a chapter on "The Communication of Ideas on Innovation in Agriculture." In this chapter he reviews a great number of studies done on the subject in the U.S. and in other parts of the world. In the summary of his chapter, Wilkening wrote:

> The influence of communicating agents varies with certain personal and social characteristics of the farmer. Those of middle and upper social and economic levels are most likely to be influenced by the educational and service agencies and by written materials. Those of lower social and economic status depend more upon personal contact with other farmers for their information about new ideas. The clientele of institutionalized sources of information varies according to their identification with local needs and interests and with the particular means of communication employed. The audience of the mass media also varies according to the form and content of the communications. The influence of other farmers varies with the structure and function of the group within which the

contacts occur. The influence of contacts within these groups is positively associated with the extent of contacts of the members outside the group.

2. Summary and conceptual analysis

This section reviewed past studies concerned in various ways with the search for and acceptance of information. It presented an array of psychological and sociological variables found to be related to that search. It will be the purpose of this summary to give an overall-view of those variables, in order to see whether they can be organized into a meaningful pattern, and thus be rendered useful for the present study. The following table summarizes the findings of the studies reviewed.

Table 2. Characteristics found associated to high communication exposure and/or receptivity[1]

1.	Emory, Oeser, Tully (Australia)	a. Degree of urbanization b. Large scale farming c. Sex d. Education e. Socioeconomic status f. Size of community of reference
2.	Abel (Canada	
	A. Characteristics of the farm	a. Soil rating of the farm b. Size of the farm c. Proportion of improved land on the farm d. Number and type of income-producing enterprises on the farm e. Extent of the farm business f. Size of labor force g. Labor efficiency
	B. Objective characters of farmer	a. Nature and number of working experiences b. Age c. Education d. Stage in the family life cycle e. Level of living

[1] Whenever the denomination of the dependent variable employed in the particular study differs from "Communication exposure and/or receptivity" in a significant way, it is made explicit in this table.

C. Psychological and behavior characteristics of the farmer	a. Intentions to remain in farming as an occupation b. Intentions about making future changes in his farming enterprises c. Materialistic meaning for words "level of living" d. Rating of family's level of living e. Social participation f. Visiting other farmers for discussing farming g. Recent reception of new ideas on farming h. Contact with local district agriculturalist
3. Deutschmann and Mendez (Guatemala)	a. Literacy b. Age (negatively) c. Level of living (Low posit. correlation)
4. Deutschmann and Fals Borda (Colombia)	a. Literacy b. Size of land owned c. Age (weak negative correlation) d. Number of dependents
5. McNelly and Torres (Costa Rica)	a. Education b. Income c. Occupation
6. Myren (Wisconsin)	a. Education b. Age c. Income d. Size of dairy herd
7. Bostian (Wisconsin)	a. Age b. Level of living c. Size of the herd d. Size of the cropland e. Family size (low negative correlation)
8. Felstehausen (Holland) (Dependent variable: knowledge of economic terms).	a. Education b. Organization membership c. Mass media usage d. Farm productivity per man
9. Fliegel and Oliveira (Brazil) (Dependent variable: Receptivity to new ideas).	a. Degree of adoption of new practices b. Desire to have complementary non-farm occupation c. Preference for non-farm occupation for sons

10.	Wilkening (Australia)	a. Management skills
11.	Blair (Brazil)	a. Occupational group (farm, factory, office)
12.	Lerner (Middle East)	a. Literacy b. Urbanism c. Empathy d. Opinion range
13.	Oliver (Puerto Rico)	a. Value orientation b. Large scale operations c. Innovativeness and adoption-proneness d. Organizational activity

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While it is obvious that many other characteristics may have been shown, or may be eventually shown to be also related to the use of communication, an examination of the findings reviewed suggests that receptivity and exposure to communication are related to the following general dimensions:[1]

1. Urbanization (including community of reference).
2. Education (including literacy, working experience, etc.).
3. Socioeconomic status (including income and level of living).
4. Size and complexity of farm operations (including management skills).
5. Certain psychological and behavioral variables, such as value orientation, empathy, intentions to make changes, social participation, receptivity to new ideas, visiting for exchanging farming information, contact with agricultural agents, etc., indicative of a disposition for improving the present state of affairs.

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[1]The findings on age seem to vary according to the particular dependent variable being used and to its operationalization. They also vary from culture to culture: while in Lerner (27) the young people tend to be more modern and use more mass media, in Abel (1) use of media increases after the farmer is 40 years old, probably up to a certain maximum age.

Now, why are these dimensions related to high exposure and receptivity to communication? Oriented by the findings reviewed in this study, an attempt will be made to find parsimonious explanations for the relations between communication receptivity, on one hand, and urbanization, education, socioeconomic status, size and complexity of farm operations, and change-proneness, on the other. The procedure will involve taking each dimension at a time and trying to "see through it." A final effort for synthesis will close the section and serve as the basis for a theoretical frame of reference out of which hypotheses about the relationship of new variables can be drawn and put to test.

1. Urbanization: Broadly defined, this dimension includes the traits distinguishing the urban person from the rural person, the cosmopolitan from the locally-oriented. It points to a person with more complex and sophisticated needs. In general it will indicate a higher degree of schooling, an increased range and frequency of personal contacts, a wider array of alternative and/or conflicting stimuli to which to react and from which to choose, etc. Of course a currently rural person may be urbanly oriented without a previous urban experience or may retain the imprint of a past urban experience.

Why does urbanization relate to communication exposure and receptivity? Is it only because a higher level of education is involved? Or because in the urban setting the opportunities for exposure to personal and mass media communication are more numerous? Or because in the urban setting there is so much one has to know to keep up with what is going on? Or because the urban setting requires the people to make constantly new decisions and thus to search for

2. Education: What in the years of schooling makes a person more prone in later life to have a high tendency to receive communication of a non-escapist nature? A list of the possible effects that education might have on people should be useful here. Such a list includes:

a. Provides the knowledge of many facts and relationships.

b. Contributes to the belief that man has power over nature.

c. Demonstrates the instrumental usefulness of the scientific method and thus encourages rationality in the process of mastering the environment.

d. Teaches a problem-solving approach to reality.

e. Increases the person's tolerance for uncertainty and ambiguity.

f. Trains people to make decisions on the basis of information on goals, means and obstacles.

g. Creates awareness of the discrepancy between how things are and how things could be, on the basis of culturally approved standards of judgment.

h. Teaches to channel dissatisfaction toward the improvement of reality and not toward dispair and withdrawal.

i. Creates the habit of achievement and of obtaining rewards for the achievement.

This review of some of the possible or hypothetical effects of education may help to explain why more educated persons expose themselves more to communication. This thesis attributes a particular influence to the enlargement of the decision-making ability as a product of education, and thus an enlarged need for information to take these decisions.

3. Socioeconomic status: Is socioeconomic status related to communication exposure and receptivity only because it facilitates the possession of the mechanic devices used to receive messages, such as radio and TV sets, newspapers, magazines, books, etc.? Or because, being in general correlated with education, it permits the latter to exert its influence? Is it because a person with higher socioeconomic status has more leisure time to devote to communication activities? Or would it be because in general the high status person needs to be well informed in order to associate himself with persons who are well informed? Or is it because high status implies more economic and social responsibilities and therefore a higher need to be better informed to cope with multiple roles and decisions?

While all these characteristics of socioeconomic status may have a part in explaining its relation with a more active search for information, here again this thesis focuses particularly on the heightened level of decision-making generally associated with high status as a central reason for that search.

4. Size and complexity of farm operations: Why is this dimension related to communication exposure and receptivity? Is it because persons who run complex operations are in general better educated and have a higher socioeconomic status? Or because a complex farm operation requires the taking of many and important decisions, which in turn requires the absorption of a great deal of information?

5. Change proneness and change activity: How can the association between high receptivity to non-escapist communication and a general tendency to change the present situation be explained? Is it necessary

to bring in an intermediate variable -- education -- and with it the habit of looking for external sources to provide help for the solution of problems? Or does it suffice, disregarding education, to accept the fact that the reception of information is a necessary condition for change?

While all these speculations do not exhaust the possible explanations for the association between the five dimensions abstracted from previous findings, and the receptivity to communication, they may be enough to justify an attempt at explanation based on the belief that there are two common denominators to those five dimensions:

a. the necessary role of information for making decisions

b. the instrumental role of information in changing the present unsatisfactory situation.

These two conclusions will be briefly discussed.

A. Decision-making and information

In order to make decisions, a man has to know or to guess:

1. what the alternative action choices are
2. which are their respective probable effects
3. what are the techniques necessary to implement the choices
4. what are the obstacles and facilities he may encounter in the path of either alternative action.

People vary according to the number and importance of the decisions they are expected to make. Moreover, it is commonly thought that people vary according to the authority and the possibilities they have to make decisions.[1] Thus we can think of an inclusive variable

[1] We can use the sample of the slave. If he is freed by his master, his range of possible decisions will be widened and he will be faced with having to make decisions for which he does not have the information. While

and call it the Range of Possible Decision-making, which should be positively correlated with the individual's search for instrumental information.

a. Self-evaluation: Expressing what many psychologists believe to be true, Shibutani (43) writes:

> Voluntary conduct is not so much a manifestation of what man "really" is but rests upon the beliefs he develops about himself -- on the basis of the consistent manner in which he is treated by his associates. . . .Knowing what is generally expected of various kinds of people, he places limitations upon his own conduct.

It may be argued that some individuals, while dissatisfied with the situation, may yet believe themselves unworthy or unable to enjoy a better one, or at least to struggle to make it better. So the evaluation they have of themselves will influence the actions, if any, they decide to take to change their situations.

b. Perception of Possibilities for Improvement: Before making an effort to change the situation, it is natural to expect the person to reflect upon whether he has any probability of achieving success. The probabilities of improvement, however, are differently perceived by different people, depending upon several factors, such as previous experience, self-evaluation, perception of the difficulties, etc. When the perceived probability is very low, it is natural to expect that improvement action will also be very low.

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he could afford being ignorant before, now he has to learn. The alternative is to find a new master who would make the decisions for him. After the liberation of the slaves in Brazil, in effect, a great number of freed slaves returned to their masters. Besides the emotional attachment and the rooted habits developed in years of slavery, they may have come back because they were not prepared to face the widened range of decisions that freedom requires. Other examples of the correlation between decision-making and information levels are found in countries where a dictatorship prevents the people from governing themselves. The lower need for decision produces a lower need for information.

c. Importance of a widened range of decision-making: Due to the diverse life experiences, or to the varying influence of their familial values, people vary in the value they give to freedom, power, achievement, pleasures, and in general, to the rewards normally coming with an increased range of decision-making. They also vary in the willingness to make the efforts needed to achieve that goal.

3. Behavioral expression of the motives. Relation to the Search for Information.

Motive 1 - Need to make decisions relevant to status has an obvious behavioral expression in the research for information. Motive 2 - Reduction of dissatisfaction with the present situation may produce a variety of behavioral manifestations, among which it is logical to include the search for instrumental information. Other facets of the pattern of activities aimed at situation improvement may be efforts for increasing income and credit; for gaining status, power and influence; for increasing ownerships of production factors, etc.

Within this framework, socioeconomic status and size and complexity of farm operations are reinterpreted as expressions of the range of the decisions the person must and can make in order to cope with his social, occupational and economic roles and obligations. On the other hand, urbanization, education and work experiences are reinterpreted as representing the range of the decisions the person is mentally able to make because of his knowledge about, proneness toward and experience with decision making.[1]

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[1]Dorner and Thiesenhusen (13) write the following: "In virtually every developing country, the diffusion of technical information is of central importance. Land reform implies a wider dispersion of the right

B. Information and the need to change the present situation

The objective range of decisions possible or needed and the capacity of the individual to make those decisions, however, may be insufficient to account for his efforts to use instrumental communication. Presumably, the individual must also feel motivated to change the present situation and to use information as one of the tools for this purpose.

An appeal to motivation theory

For the above reason, it was decided to put this problem in a framework of motivation theory. Motivation, according to Atkinson (2) is a function of

1. a disposition to strive for a certain kind of satisfaction (MOTIVE)
2. a cognitive anticipation that performance of some act will be followed by a particular consequence (EXPECTANCY)
3. the relative attractiveness of a specific goal that is offered in a situation (INCENTIVE).

Motivation = f (M x E x I)

M = motive strength
E = expectancy
I = incentive

This means that people differ in their degree of motivation not only because they differ in the strength of the particular motive, but also because they perceive differently the probabilities of goal realization and because they are attracted differently by the reward attached to the obtaining of the goal.

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and the responsibility to make decisions. The rural worker is little experienced in decision making and perhaps ill-prepared for the autonomy reform may bring." The lack of habit of decision-making may explain why in certain agrarian reform programs some of the landless workers were not interested in receiving land from the government but preferred to continue being wage laborers.

This formulation was applied to the problem at hand through the following questions:

1. In the first place, what motives would be expected to operate in the search for instrumental information, i.e., which goals the motives aim at and which rewards are inherent in such goals?
2. Which factors influence the manifestation of these motives, or better, the degree of motivation?
3. Finally, which are the possible behavioral expressions of the motives and their relationships to the search for instrumental information?

1. The motives

It is hypothesized that the relevant motives in this problem are the individual's awareness of the discrepancy between his present situation and a more desirable one, and the dissatisfaction ensuing from the awareness of this discrepancy.

The name used for this motive does not represent the introduction of a new need to the already long list of basic human needs. It is simply one instance of the need indicated by Festinger's theory (19): the need to reduce the tension produced by cognitive dissonance. In other words, when the individual is aware of two or more conflicting cognitive statements trying to coexist in his mind, an irritating tension builds up in him, and he attempts to find ways to reduce the tension. In this case the conflict is thought to exist between the individual's perception of his present situation and his perception of the thinking he ought to have to satisfy his general needs. Awareness

of this discrepancy -- fostered perhaps by exposure to external communications, by travel and by the influence of social agitators in the case of the Northeast -- touches on his human need for consonance and produces dissatisfaction. The goal at which the motive aims is that of reaching consonance by changing the present situation.

In the context of the present study, the "situation" is conceptualized in terms of the range of decisions a man can make. This range is thought to be partially determined by the socioeconomic position of the individual but also by his own personal or intellectual capacity. Intelligence, education and other personal factors also contribute to establishing the real breadth of a man's decision range.

Improvement of the situation, therefore, means simply the widening of the range of possible decision-making. This is assumed to be an important goal for the Northeastern farmers, a goal associated with many rewards. The rewards consist of all the satisfactions inherent in a wide range of decision-making (e.g., freedom, power, achievement, pleasures, etc.), plus the fulfillment of other more altruistic aspirations such as welfare of the family, education of the children, etc. That these are generally desired goals and rewards was an "a priori" assumption of this study. However, it was recognized that there may be persons for whom the perspective of a widened decision range may be not only undesirable but frightening.

2. Factors influencing the behavioral manifestations of the motive

Should there be a direct influence of the dissatisfaction with the situation in the search for its improvement? It was thought that at least three dimensions may influence this behavioral manifestation:

a. the individual's evaluation of himself

b. the individual's perception of the possibilities for situation improvement

c. the importance ascribed by the individual to the attainment of an increased range of decision-making.

The following frame of reference integrates the ideas presented thus far.

SITUATION	MOTIVES	MEDIATING FACTORS	MEANS	GOAL	REWARDS
Range of Possible Decision-Making	1.Need to make decisions inherent in status 2. Dissatisfaction with the present range of decision	1.Self-evaluation 2.Perception of possibilities for situation improvement 3. Importance of a widened range of decision	Total pattern of activities for situation improvement Search for instrumental Information	Increased range of decision-making	Freedom Power Influence Achievement Consonance

Figure 1. The Process of Search for Instrumental Information

The classificatory organization of the variables should not obscure the fact that this is a process, i.e., a dynamic, interactional set of relationships in which no stable or clearcut direction, sequence or ordering is the rule. It is difficult, for instance, to know when an activity is a product of an attitude and when the attitude has developed as a subproduct of an activity. Dissatisfaction, for example, may sometimes be an effect of exposure to instrumental information.

The process nature of this frame of reference does not permit the generation of causal or directional hypotheses, but of predictions of correlations among some of the variables.

D. SUMMARY OF CHAPTER II

This chapter set out to establish the conceptual background of the hypotheses tested in this study. Behavior is seen as the product of the interaction of society, personality and the situation. The main assumption of this research is that communication behavior constitutes one of the many ways used by the individual to adapt himself to his environment. But before specifying the theoretical frame of reference the main analytical terms were defined.

Next, a review was made of previous studies which have found certain social and psychological factors related to the search for or the receptivity and the exposure to communication, particularly to communication of a non-escapist, instrumental nature.

The list of factors found related was subjected to an analysis aimed at finding more general, underlying dimensions through which the factors could be meaningfully organized. These dimensions were urbanization, education, socioeconomic status, size and complexity of farm operations, and a disposition to improve the present situation. These dimensions in turn were analyzed in a search for an explanation for their relation to information-seeking. Two general principles were thought to provide the explanation:

1. Information is necessary for making the decisions demanded at a given status level

2. Information can be instrumental in changing the present situation of the person.

An appeal was made to motivation theory to conceptualize the relation between the range of decision-making, the motivation to improve the situation and the search for instrumental information. A seemingly coherent explanation for that relationship was produced and integrated into a more or less consistent frame of reference. This frame will serve in Chapter IV to generate the hypotheses.

Inasmuch as the operationalization of the variables (Chapter IV) requires some knowledge of the geocultural setting of the study, the next chapter will describe the Brazilian Northeast in general and the municipio of Timbauba, in which the field research was conducted.

CHAPTER III

THE GEOGRAPHICAL SETTING[1]

A. INTRODUCTION

The purpose of this chapter is to familiarize the reader with the conditions of nature and society in the geographical area where the present study took place. The reasons for the choice of this particular area will be presented first, and then the general description of the Brazilian Northeast, giving particular attention to the characteristics of its rural social structure and the communication channels peculiar to this area. The description of the municipio of Timbauba, site of the study, will close the chapter.

The Northeast of Brazil was selected as the setting of this study for three main reasons:

1. At the time (January 1962) of choosing an area for the study and among the many areas of Latin America in urgent need of agrarian reform, the Brazilian Northeast showed possibilities of undergoing such a process soon. It was the intention of the author to have a before-agrarian-reform picture of the communication process in order to eventually have an after-agrarian-reform comparison.

2. It was thought that the agrarian structure of the Northeast offered the maximum desirable variance in range of possible decision-

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[1]The meaning for all Portuguese words mentioned in this and other chapters, can be found in the special glossary, Appendix I.

making of individuals and probably also in degree of dissatisfaction with the present situation. In effect the rural stratification system ranges from very wealthy landowners to very poor landless hired workers, with a variety of intermediate types.

3. Other advantages of doing the study in the Northeast accrued because of the interest of the Pernambuco branch of SUPRA (Superintendencia de Reforma Agraria) -- the federal organization then in charge of planning and executing agrarian reform -- in this research.

Its help was invaluable in establishing the institutional connections and legitimations so necessary for field studies in socially and politically agitated areas.

Within the Northeast, the state of Pernambuco was chosen fundamentally because SUPRA is headquartered at Recife, capital of this state. And within Pernambuco the Municipio of Timbauba was chosen for the following reasons:

1. Timbauba is located in the zone called Agreste, which constitutes an ecological synthesis of the Northeast. It includes all the land tenure types characteristic of the region. In one truly rural municipio it was possible to find representative features of a much wider area.

2. The city of Timbauba is located only 2 hours by car from Recife, where the author of this study was headquartered. Also, Timbauba offered good facilities to house the interviewing team during the field research period.

3. The former Rural Social Service, at the time recently taken over by SUPRA, had a branch office in Timbauba, provided with desks, typewriter and other facilities which could be used as the field headquarters. SUPRA offered the participation of three social workers in the research, previously assigned to Timbauba, who knew the municipio very well and could act as valuable contacts for introduction and legitimation.

In order to facilitate the operationalization of the variables and hypotheses, in terms of the local situation, a general description of the Northeast and of the municipio of Timbauba will now be presented.

B. GENERAL DESCRIPTION OF THE BRAZILIAN NORTHEAST

Following a strictly ecological criterion, the geographer Manoel Correia de Andrade (8), includes in the Northeast the states of Ceara, Rio Grande do Norte, Paraiba, Pernambuco, Alagoas, Sergipe, the east of Piaui, the north of Bahia and the territory of Fernando de Noronha. Thus the Northeast would cover an area of more than 750.000 km^2.

For SUDENE's[1] planning action, however, the Northeast also includes an area in the Northern part of Minas Gerais (see map 1), all of the state of Bahia, all of Piaui, and all of Maranhao. SUDENE's Northeast, thus, covers an area of 1.649.000 km^2 (20% of Brazil, which

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[1] SUDENE: federal organization founded in 1959 to study the Northeast problems and resources, to plan its economic development, and to execute programs to accomplish the objectives of the development plan. Its board of directors includes the governors of the states included in SUDENE's jurisdiction.

has an area of 8.458.000 km^2), and holds a population of about 25 million (in 1960), about a third of the Brazilian population, which is 75,271,000.

Sub-regions in the Northeast

On the basis of climate it is customary to divide the Northeast into three areas: 1. Zona da Mata 2. Zona do Agreste and 3. Zona do Sertao.

1. Zona da Mata: With a hot and humid climate and with two well defined seasons (rainy and dry) this zone extends from Rio Grande do Norte down through Bahia, on the shore of the Atlantic Ocean, ending not far from the sea. In spite of the fact that its 32,000 km^2 represent less than 5% of the total area of the Northeast, the Zona da Mata includes 27% of the population (4,240,702 inhabitants). This, plus the fact that most of the region's industry and plantation agriculture is located here, makes the Zona da Mata economically the most important sub-region. Favored by the high rainfall rate and the quality of the soil, sugar-cane plantations are the most frequent landscape feature in Zona da Mata. The human characteristics are for the most part determined by two facts: (a) the majority of the capitals of the Northeastern states are located on the shore; and (b) The region's land tenure system is dominated by the big property and plantation agriculture.

2. Zona do Agreste: The transitional quality of the Agreste with respect to Zona da Mata and the Sertao, made Correia (8) write:

> What characterizes the Agreste is the diversity of landscapes it offers in short distances, functioning almost like a miniature of the Northeast with its very dry and very humid areas.

The Agreste is the most rural of the three subregions of the Northeast. Of its total population of 2,640,950. 77.2% are rural (against 47% in Zona da Mata and 72% in the Sertao). Similar to Zona da Mata, the large properties dominate the picture in the Agreste. However, the number of small farms - from 0 to 100 hectares - is much larger and includes a larger proportion of the total area. This situation is closely related to a different pattern of agricultural production. While the Zona da Mata is essentially a one-crop area, the Agreste has a diversified agriculture, combining cash and subsistence crops. Cattle production is also noteworthy although not as much as in the Sertao, where average size of the ranches is much larger.

3. The Zona do Sertao and the Northern Litoral: This subregion covers 90% of the Northeast. The Northern Litoral is included in this ecological area because in the Northern coast the desert-like aspects of the Sertao reach the very shore of the sea. Because of the dryness of the climate and the type of sandy soil prevailing in the Sertao, cattle raising and the production of an arboreous long-staple cotton called moco, are the dominant agricultural enterprises. The Sertao houses the majority (55%) of the total population of the Northeast, but its 8 and a half million people are not compressed by space.

Concentration of land in a few hands, the latifundia system, marks the land tenure pattern in the Northeast.

Table 2. Land Distribution in the Brazilian Northeast (*)

Subregion	Minifundia		Latifundia	
	% of number of farms	% of total farm area	% of number of farms	% of total farm area
Mata	90.8	17.0	2.3	55.6
Agreste	96.5	32.1	0.6	47.6
Sertao	86.9	27.3	2.3	45.5
Average	91.4	25.4	1.7	49.6

(*) These figures correspond to the ecological Northeast, not the SUDENE's Northeast

Only 1.7% of the total number of farms cover almost half (49.6%) of the total farm area of the region. The latifundia picture is clear.

C. HUMAN ASPECTS OF LAND AND AGRICULTURE IN THE NORTHEAST

The people who work the land in the Northeast are either landowners, managers, sharecroppers, renters or hired workers, or a combination of these categories. Some of them work full-time in agriculture, some also have a job or office outside agriculture.

1. Landowners: The Brazilian constitution defends the right of private property. At the time of this field work the government could not confiscate any land unless it was declared of public utility by Congress and paid for in cash. Landownership in the Northeast is not only a right protected by the law, but a deeply-rooted value -- at least until recently -- in the hearts of the rural people. Leftist

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agitators face an uphill task in trying to convince the peasants that the land of their patroes (bosses) is theirs (the workers') by justice, that it can be taken by them. The peasants do not accept easily the breaking of a historically powerful institution such as private property. Until recently the landlord had the culturally accepted right to punish a worker physically, either himself or through his capangas (bodyguards). He had the right to fire any worker any time. He granted the workers a small piece of land for their subsistence crops, only if he wanted to do so. He could allow the sharecroppers and renters the right to grow whatever they wanted, or he could forbid them growing certain crops. There are several kinds of landowners:

a. Usineiros: these are the owners of usinas or sugar factories in the field. These are usually absentee landowners, living in the capital of the state, Rio de Janeiro or Sao Paulo, and also possessing interests in assorted industries or occupying high political offices.

The usinas produce part of the cane they grind, but more often they buy the raw material from fornecedores de cana (suppliers). Many usinas own several engenhos, or smaller plantations which formerly produced a non-refined sugar called bangue in primitive sugar-mills. Some of the usinas have a truly enormous capacity for sugar production, like Catende, the largest usina in Pernambuco, which in the 1955-56 harvest produced 866,277 bags of 60 kilos (132 lbs.) each. The largest usinas control a tremendous amount of land, as much as 35,000 hectares (more than 70,000 acres), each.[1]

[1]There is a tendency for the usinas to cultivate their own lands, eliminating the fornecedores. They want both the industrial and the

b. Senhores de engenho: owners of engenhos or plantations. Some keep their sugar-production mills active despite the pressure from the usinas to buy them out; most have become only cane suppliers, and their engenhos are called engenhos do fogo morto (dead-fire-mills).

c. Proprietarios: although this is a generic denomination, meaning proprietor, in Pernambuco it is generally applied to the owner of a farm which is not an engenho or a usina. It may be a small farm devoted to general agriculture.

2. Sharecroppers and renters: these are farmers who in general do not own land and therefore work the land of a landowner. There are many ways to pay for the use of the land:

a. In products: at the time of harvest, the sharecropper puts aside one third, or one half, of his crop for the landowner. This system is called parceria which may be tercia (one third) or meia (one half) according to the proportion given to the landowner. The men are called meieiros or terceiros. The Vaqueiros take care of the herd and keep a half or a third of the offspring from cows, goats, pigs, etc.

b. In cash: In this region the cash rent paid to the landowner is called foro and the people who pay it foreiros. The amount of the foro is usually established by the landowner.

c. In personal labor: a man works at the landowner's operations some days of the week, at a certain rate per day, and works at his own

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agricultural profit. They buy out a large number of engenhos, link them with truck and railroads, divide the land into zonas, these into capitanias and these into administracoes and use their own men to direct them.

operations the rest of the week. This system is called sujeicao or condicao and the men subject to it conceiros. Condicao is also called cambao, although some people reserve the use of the word cambao for the labor paid to the landowner on top of paying foro or rent in cash.

There may be all kinds of combinations of these three payment systems.

In the majority of the cases, a renter owns his work tools and is free to sell the products of his lot to anyone he pleases. He usually takes them to the nearest fair. Economically, the renters are in a better position than the hired workers and juridically they have the right to be reimbursed, when they leave, for the improvements they have introduced in the rented land, such as the house, the fences, the cleaned-up cropland, the well and corrals, etc. In general they cannot be expelled by the landowner before the expiration of their contract. The renters can obtain bank credits, for which they need the landowner's approval (the collateral is not the land, but the products). Many renters end up buying some land either from their own patrao or from other landowners.

Lately the term "campones" is being used frequently for this category of renters and sharecroppers. According to Francisco Juliao there are 40 million componeses in Brazil. (24) Although there is a history of previous organizations, Juliao makes it clear that the Peasant Leagues (Ligas Camponesas) in existence at the time of this research, had their origin in a movement started by foreiros of engenho Galileia, in the municipio of Vitoria de Santo Antao, state of Pernambuco. They originated as a revolt of foreiros against the

landowners who wanted to expel them from the sitios (small farms) on which they have lived for many years.

3. Hired workers. According to Correia de Andrade (8):

> The hired workers (trabalhadores assalariados or alugados -- also called in certain areas trabalhadores de eito, cassacos e eiteiros) constitute the great majority of the rural workers in the sugar-cane area. According to the degree to which they are tied to the land and the landlord, they can be grouped into three categories: the moradores who reside in the property where they work, the trabalhadores de fora who live in the towns or villages making up the bulk of their population, and the corumbas or caatingueiros who live in the Agreste or the Sertao but travel every year to the sugar-cane areas during harvest, to work in it. The latter perform then a seasonal migration, inasmuch as with the first rains they go back to their zone.

The moradores are given a place to live on the property if they are single, or a house if they are married. Often they are also given a small sitio or rocado (plot) to grow food crops. Coffee and banana are not permitted because, being permanent plants, the morado may ask for indemnization when leaving. Frequently the landowner requests a reduction of the workers' rocados, so he can plant more cane.

The hired worker receives a daily wage for his work at the plantation. Although the government has established a minimum wage, few landowners pay it. Also, the landowners have many ways to pay a lower real wage. In the first place, the workers are not paid in cash, but in vales de barracao, i.e., pieces of paper on which the amount they have earned is written. These vales are only good at the barracao, or small store in which the landowner sells groceries, bread, rum, clothes and medicines. At the barracao prices are generally higher than at regular merchant shops. But the system forces the workers to buy in the

landlord's store. Taking advantage of the ignorance of the workers, the bodegueiros (men who run the barracao) write inflated figures on the workers' record of expenditures at the barracao, or on the record of the loans they get from the store. This trick is called engano-do-lapis (pencil's mistake). So the worker is always in debt to the patrao, and this debt ties him to the property. If he tries to escape without paying back his debt, the police will surely chase him back. Some workers, who want to move to another engenho but who are in debt, "sell themselves" to the new landowner, i.e., they borrow from him enough money to pay up the previous debt. Punishment for not paying can be drastic: Coreia de Andrade (8) reports the case of a morador who was branded with a red hot iron, like a horse, by the indignant landowner.

Another trick used to pay low wages is to use a doctored-up stick to measure the amount of work done by the workers. Work on the fields is usually measured by contas of certain number of yards. The stick used to measure the yards in the contas is longer than it should be. The worker seldom notices the extra size.

The hired workers in general own few or no agricultural tools. They are seldom allowed to raise work animals. Some are forced to sell their own small produce to the barracao, at prices set by the patrao. Absolute obedience to the landowner and his cabos is required.

Currently the foundation of the Rural Syndicates with the help of the Catholic Church is alleviating the fate of the alugados. Also the leftist orientation of the Pernambuco government shifted the police's support from the landowners to the workers. According to the

law any landowner with more than 100 workers must build a school and pay the salary of a teacher for the workers' children. In a few cases in which the landowners comply with the law, only a small number of workers can benefit from this. Because of their poverty, the workers' children have to start working at a very early age and do not go to school; thus the nearly 90% illiteracy among workers.

D. COMMUNICATION MEDIA TYPICAL OF THE NORTHEAST

Besides person-to-person and mass-media communication channels, there are some media which are characteristic of the Northeast:

1. Folhetos: small size leaflets (16 newsprint pages) consisting of sets of six verses, rhyming A B C B D B. Each verse has seven syllables. The folhetos narrate romantic or tragical events, the product of the fantasy of popular poets called folhetinistas. According to Francisco Juliano (24) these folhetos are printed in about 17 small printing shops, from Bahia to Ceara. They are sold in the weekly fairs held in the rural towns of the Northeast. Often they are presented by a cantador, who sings out the content, so that his illiterate audience may know what is in the folhetos and be motivated to buy them. Many illiterate peasants buy the folhetos, have them read by friends or relatives, and memorize their content. It is not unfrequent to find illiterates who know 7 or 8 folhetos by heart.

Renato Carneiro Campos (7) analyzed the content of a large number of folhetos. According to him the most frequent themes encountered are:

a. Animal stories or fables. Animals are given human characteristics, virtues and vices.

b. Character substitution. In many folhetos, the struggle of the poor knights against the powerful feudal king, which was a favorite subject in the Middle Ages, is replaced by the struggle between the poor sertanejos (cowboys from the Sertao) and the senhores de engenho. Often the brave sertanejo conquers the landlord's daughter, a thing that is totally impossible in reality. The oppressed rural workers channel their social protest into these verses.

c. The shrewd popular character. In all times many people have identified with and championed the underdog. Most cultures and societies have, at one time or another, a shrewd, resourceful, popular character, who steals from the rich and gives to the poor; who gets away with many proscribed actions. Quevedo in Spain, Cartouche in France and Robin Hood in England are examples. In many folhetos, the amarelhinho (little pale one) takes the role of the underdog who is victorious, less by the exertion of power than by his ingenuity and bluff. The people obtain vicarious satisfaction from his deeds.

Francisco Juliao utilized folhetos as a vehicle for peasant political awareness and indoctrination. He writes: (24)

> Looking, in those first years, for the most effective medium to diffuse the idea of the Leagues within the peasant masses, we tried the divulgation and participation potential of popular poetry. We sensed at the start, by a quick analysis of the different themes, that, in spite of that literature not including the political content, it did contain a strong ideological character. In truth almost all of the themes employed are based on the struggle of the weak against the powerful, of the poor against the rich, of the campones against the latifundiario.
>
> In summary, the violeiro, the folhetinista and the cantador, are notable cultural elements thanks to their closeness and permanent contact with the rural masses. Because of this, we did not hesitate to use them for the work of the Peasant

> Leagues....With the help of these professionals, we broke the fence, the isolation, the silence, built around us by the press.

2. Violeiro or Cantador de Viola: also frequently found at the rural weekly fairs, these are singers of folk music and poems. They sing their own and others' songs. They do not try to sell folhetos like the cantadores, but they are paid by the crowd that listens to their singing. The violeiro is more an itinerant troubador, everywhere accepted for his songs and his news and tales of other places.

Often two violeiros engage in a singing duel, totally improvised, full of wit and coarse humor, which could last hours. The best violeiros acquire lasting fame throughout the Northeast. Nowadays, with the diffusion of radio receivers in the interior of the Northeast, many violeiros go to the capitals to be hired by the broadcasting companies. Their programs have wide acceptance and even many commercials are sung in violeiro style.

3. Almanacs: small cheaply-printed booklets, containing monthly calendars with the names of the day saints. A very important part of the almanac is the prediction of the weather for each month of the year. Although it is doubtful that these predictions have been arrived at scientifically, the Northeastern farmers follow them with deep faith. The almanac also contains stories, jokes, some philosophizing of a cheap nature, and commercial advertisements of popular products such as soaps, tonics, medicines, etc. The almanacs are produced commercially and sold in stores, weekly fairs and other places.

Both folhetos and almanacs are currently being used as educational tools by some agencies, although on a small scale.

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4. Fairs: Farmers and rural workers from a wide area concentrate in most rural Northeast towns for their weekly buying, selling and visiting. Merchants go from the fair in one town to the fair in another, thus becoming important vehicles of new information. Besides performing their economic function, the fairs are the lungs through which the isolated, hard-working peasants breathe in the outside world through their contact with merchants, friends and relatives. At the fair they are also exposed to other communication channels, such as loudspeakers, newspapers, magazines, folhetos and almanacs, plus other personal channels such as the parish priest, politicians, authorities, violeiros, truck and bus drivers, etc. A great deal of person-to-person exchange takes place on the way to or from the fair. Many farmers attend more than one fair in different towns. The fair is an extremely important social institution in the Northeast.

E. THE MUNICIPIO OF TIMBAUBA

One of the 102 municipios of the state of Pernambuco, Timbauba is located in the Northeastern part of the Zona do Agreste. Its area of 234 square kilometers houses a population of 50,000 of which about 22,000 are urban and 28,000 rural. The municipio is politically divided into three distritos (districts): Timbauba, Cruanji and Livramento de Tiuma. Within the district of Timbauba is the cidade (city) of Timbauba[1], with a population of 21,000.

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[1] In other words, the name Timbauba refers a. to the whole municipio, b. to one of its districts and c. to the city serving as sede (seat) of the municipio. This study is concerned with the rural population of the whole municipio.

The municipio's topography consists of a mixture of serras or escarpments and large flat valleys, often crossed by one or two small rivers. While in the central part of the municipio there are numerous small farms, sugar cane plantations predominate in the extreme North and South.

The municipio prides itself on being the home of a significant amount of industry in sugar, textiles and shoe manufacturing. Sugar is produced in the usinas and in engenhos.

Timbauba also prides itself on the regional importance of its weekly fair. Valverde (47) describes it:

> Another traditional and important aspect of trade in Timbauba is the weekly fair, which takes place on Saturday and lasts the whole day. The fairs and the market are a mirror of the agricultural and craft activities of the region: one can find there, among other articles, hammocks, cheap cloths, slippers and sandals, ceramics, meat, rapadura, rum, etc...Part of the people attending the fair come from outside the city, and because of this, the night before the fair, many barraquinhas (small booths or tents) are set up to serve food and drinks.

Communication media available in Timbauba

It is important before measuring the amount of instrumental information received by the rural people to have an idea of the amount of information available. The latter, of course, is almost impossible to measure accurately. However, an easier task could be to ascertain the amount of information media available in the area.

1. Radio: a Timbauba farmer who wants to listen to radio and has access to a set can tune to at least six stations from Recife and two or three more from other cities. Among the latter are two educational broadcasting stations run by the Movimento de Educacao de

Educacao de Base (Basic Education Movement), a church-sponsored organization which has some 20 "radio schools" active in the municipio of Timbauba. The radio schools consist of groups of farmers who gather once a week to listen to MEB programs under the guidance of a monitor or local instructor.

2. Television: There are two powerful channels in Recife and reception is no problem in Timbauba, where another study of the author showed that of 33 selected community leaders 11 owned TV sets. The obstacles for TV viewing in the rural areas are the lack of electricity and the high price of the TV sets.

3. Newspapers: Although the total circulation of the four daily papers published in Recife is relatively high (70,000 copies), less than half of these copies go to the rural areas (30,000 copies) and only 350 copies are distributed daily in the municipio of Timbauba. Only the two biggest newspapers publish a weekly Farm Page.

4. Magazines: All the national popular magazines are sold in the city of Timbauba but in small quantity. The number of copies reaching the rural areas should be very small. Respondents said that the price of the magazines is high for many of them.

5. Books: There are two bookstores in Timbauba. Prices are high for the small farmers.

6. Bulletins: Very few bulletins of an educational nature (agriculture, health) are available to the Timbauba farmers. The Agricultural Extension Service of Pernambuco (ANCARPe), which produces many farm bulletins, does not have a branch in Timbauba. It was found by the author that the health agencies operating in Timbauba are

not supplied with a significant amount of educational material.

7. Folhetos: these publications can be bought at the weekly fair at Timbauba. They are advertised by the cantadores and their price is not high.

8. Movies: There is only one movie house in Timbauba, offering shows daily. There are none in the smaller town of the municipio. So opportunity for exposure to movies is very low for the rural people.

9. Bus and truck drivers: Three daily buses link Timbauba to Recife and others go from the city to the neighboring municipios. Many trucks are seen on the highways in the municipio, fewer of them on the secondary roads. The average farmer can visit with the truck drivers in Timbauba during the fair or at other times.

10. Almanacs: They can be found at book-stores, drugstores and at the fair. However, only two or three different almanacs are published and these only once a year. So, although the price is low, the available almanacs are few.

11. Loudspeakers: In most weekly fairs loudspeakers broadcast music and commercial promotion. During political campaigns the public address system may broadcast propaganda in favor of the candidates. Occasionally a car or truck with public address system would come from Recife to do commercial promotion in the rural areas. During church celebrations, such as processions and saint's day festivals, the church's public address system would broadcast religious exhortations.

Public services in Timbauba

There are several local posts of a number of federal and state agencies in the fields of agriculture, health, education and credit, in the seat of the municipio.

In agriculture:
- Pernambuco General Stores Company
- National Department of Animal Health
- Secretary of Agriculture
- Dairy Station of Brazil-U.S.A. Agricultural Agency (ETA)

In Health:
- Timbauba General Hospital
- SAMDU: Urgent Medical Service
- National Department of Rural Endemic Diseases

In education:
- National Campaign for the Eradication of Illiteracy
- National Campaign for Free Highschools

There are 46 state, 14 municipal and 9 federal primary schools in the city of Timbauba. In the rural areas there are 3 state, 7 municipal and 52 federal schools. There are three high schools in the city of Timbauba, two of them private and one federal.

Economic and credit institutions:
- Bank of Timbauba
- Bank of Brazil
- National Bank of the North
- Bank of Cooperative Credit of Timbauba

Religious, social and civic organization:

Religious:
- Catholic Parish Action: charity and primary schools
- Protestant Church: educational and welfare project
- Espiritas: charity and literacy

Social-civic:
- Young Women Cultural Association
- Cultural and Recreational League
- Mothers Club
- Union of Secondary Students of Timbauba
- Municipal Library
- Society for Public Welfare
- Society for the Protection of Maternity and Infancy
- Social Service for Workers

Class associations:
- Rural Syndicates, sponsored by the Catholic Church
- Peasant Leagues
- Sugar-cane Growers Association

A general observation about all the institutions mentioned in this section is that they do not go to the farmers, although when the farmers go to them they strive to service them well. In most of the cases, the reason for this passive attitude is that their financial means and their personnel are extremely limited. Another reason, however, is that the orientation of the leaders of these institutions is more urban than ural. It may be said that the rural population of Timbauba is educationally abandoned by the rest of the society. Partial exceptions are the small and poorly equipped rural schools, which provide literacy and notions of arithmetic and language to the few children whose fathers can release them from farm work.

SUMMARY OF CHAPTER III

This chapter presented to the reader the natural and human landscape of the Brazilian Northeast and that of the municipio of Timbauba, so that he may understand the elements which will be used in later chapters for the operationalization of the variables. A special effort was made to describe the communication channels commonly used by the people of this area and to describe the peculiar social structure in which these channels operate.

CHAPTER IV

RESEARCH DESIGN

A. INTRODUCTION

The previous chapters have presented the central problem of this thesis, arrived at a theoretical framework within which to view the relationship between instrumental information seeking and some social and personal factors, and described the natural and human characteristics of the area in which the field research was carried out. It is the task of the present chapter to make use of the theoretical basis developed in Chapter II and out of it to produce new variables whose hypothesized relationships could be empirically tested. The theoretical variables will be operationalized in terms of the conditions existing in the field research area, after describing the sampling and interviewing procedures followed in the study.

B. THE THEORETICAL FRAME OF REFERENCE

In Chapter II, the chain of reasoning, based on the review of previous studies on the subject, arrived at a theoretical frame of reference which was summarized in Figure 1, page 38. The framework suggests that the following variables and relationships may be important in the search for instrumental information. It is these which form the basis for the hypotheses which will be presented shortly.

1. Persons vary in their capacity to make decisions. The range of variation may depend both on the socioeconomic or structural position

of the individual in society, as well as on his mental ability to make decisions. Decision-making is based also on the possession of information on the available alternatives and their consequences.

2. There is in some persons more than in others, a discrepancy between the real range of decision-making and the desired range. The wider range is desired because it generally is accompanied by desirable rewards, such as more freedom, power and influence, achievement, pleasure, welfare, etc.

3. The discrepancy between the real and the desired range of decision produces in the person a feeling of dissatisfaction with his situation. This occasions the manifestation of a motive, which aims at correcting the dissonance or conflict between cognitions (19).

4. Under the influence of this motive, the person strives to engage in a pattern of activities oriented toward correcting this dissonance. Within this total pattern of activities for situation improvement, the search for information is important, inasmuch as decision-making is an operation based on having information about alternatives. The type of information sought is called "instrumental."

5. Between the motive to widen the range of decision and the person's actually engaging in an action pattern after that goal, some personal characteristics may have mediating influence. Thus, the person's self-evaluation, his perception of possibilities for situation improvement, and the importance he gives to having an enlarged range interact to stimulate or to restrain the person in relation to taking action and in relation to searching for instrumental information.

C. THE VARIABLES

In essence, this model deals with the prediction of an objective action variable, i.e., the search for instrumental information, on the basis of certain social and psychological attributes of the persons. The dependent variable will be called intensity of search for instrumental information, and five independent variables will attempt to predict it, namely:

1. The range of possible decision-making
2. The dissatisfaction with the present situation
3. The evaluation of oneself
4. The perception of possibilities for situation improvement
5. The activity for situation improvement

D. THE HYPOTHESES

The following relationships among the variables are expected to exist:

1. Because, basically, persons need to cope with the decisions demanded by their status and because instrumental information is necessary for decision-making, persons with a wider range of decision-making - other things being equal - should display a more intense search for instrumental information.

2. Because the more dissatisfied the person is with his situation the more likely he is to engage in efforts for improvement, there should be a positive correlation between dissatisfaction and the intensity of search for instrumental information.

3. More generally, there should be a positive correlation between dissatisfaction and activity for situation improvement.

4. If the search for instrumental information is a part of the total pattern of activity for situation improvement, these two variables should be positively correlated.

5. Inasmuch as a high degree of self evaluation, and of perception of possibilities for situation improvement is likely to work positively in favor of the person taking action for improvement, these two variables should be correlated with the search for instrumental information.

6. Inasmuch as dissatisfaction has various subjective ingredients, which may make it independent from the socioeconomic or structural framework of the person, a definite relationship between the range of possible decision-making and dissatisfaction with the present situation is not expected.[1]

7. As self-evaluation and the perception of possibilities for improvement are thought to be independent from the social structural conditions of the person, a definite relationship between these two variables and the range of possible decision-making is not expected.

E. SAMPLING AND INTERVIEWING

1. Sampling Procedure

It was the goal of this sampling to select around 200 respondents out of a population defined by the following characteristics.

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[1] In other words, it is thought that there can be satisfied or dissatisfied persons in any segment of the continuum of decision-making. It should be possible to find persons with a narrow range who are satisfied (or dissatisfied) and persons with a wide range who are satisfied (or dissatisfied).

a. Male, older than 20, single or married

b. Devoted mainly to agriculture as an occupation

c. Living on the land he works (absentee landowners were excluded)

d. Living in the rural section of the municipio of Timbauba

About 100 of the respondents should be landowners, representative of the whole range of land size in the municipio. The other 100 respondents would consist of renters and sharecroppers, managers and hired workers. In order to anticipate possible losses of respondents in the analysis, an additional 20 respondents would be picked up and included in the sample.

In order to minimize bias in the selection of the respondents, a list of random numbers was applied to the list of 846 landowners of the municipio of Timbauba supplied by CODEPE (Pernambuco Development Commission). In order to have representatives of the different land-size groups, the property owners in this list were stratified as follows:

Table 3. Size of Land Owned by Landowners in Copepe List

Less than 1 Ha.	2
From 2 to -5 Ha.	25
From 5 to -10 Ha.	359
From 10 to -20 Ha.	217
From 20 to -50 Ha.	78
From 50 to -100 Ha.	67
From 100 to -200 Ha.	24
From 200 to -500 Ha.	14
From 500 to -1000 Ha.	47
From 1000 to -2000 Ha.	9
More than 2000 Ha.	4
TOTAL	846

Out of these strata, 106 subjects were picked randomly and proportionately to the number of landowners in each stratum.

The CODEPE list was shown to be quite behind the times. In many instances the landowners listed had been dead for the last 20 years and the property had been divided among several heirs, their sons and often their grandsons. In those cases one of the heirs was picked at random among all the heirs.

There was no list of renters and sharecroppers and hired workers available in Pernambuco which could also provide the locations of the individuals. Therefore in order to pick a suitable, if not truly random, sample of them, the following procedure was used: After some of the landowners selected by random numbers were located and interviewed, they were asked to supply a list of their renters, sharecroppers and hired workers. In the few cases when they were able to supply this list, a number of renters and hired workers was chosen by random procedures and interviewed on the premises. More often, however, the landowner did not have a list of their renters and workers. In those cases he was asked to indicate the names and locations on the farm of a number of them. The names were written on pieces of paper and some individuals were selected at random. The interviewers were helped by the landowner to reach the location of the interviewees. In the worst cases, some renters and workers were interviewed who just happened to be near the house of the landowner at the time of the interviewer's visit. Quite often the barracao or store is near the landowner's house and at certain hours of the day, or on Sundays, a number of idle renters and workers congregate at the barracao. In those occasions

the names of the available men were written on pieces of paper and some were selected at random. These not too uniform procedures were followed until a suitable (115) number of renters, sharecroppers and hired workers had been interviewed.

2. The questionnaire[1]

A mimeographed 16 page questionnaire was the instrument used in this research. The schedule consisted of precoded and open-end questions. Because of the different tenure characteristics of the members of the sample, parts of the questionnaire aimed exclusively at one type of subject. Thus there were questions to be asked only of landowners, others only of landowners, others only of renters and others only of hired workers. There was a mechanism built in, however, to code the responses to these diverse questions in a uniform across-type manner. The questionnaire was written in Portuguese and was pretested in four municipios of the state of Pernambuco. The administration of the final questionnaire took an average of 1 hour and 56 minutes.

3. The interviewers

The interviewers were students of Economics, Social Sciences and Social Work at the University of Recife and at the Catholic University of Pernambuco. They were recruited through announcements posted at their schools. Candidates applying for participation in the research were accepted after careful screening. Criteria for selection included aplomb, objectivity of judgment, ability to understand the rural

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[1]The questionnaire used in this study is filed at the Library of the Land Tenure Center, 310 King Hall, University of Wisconsin, Madison, Wisconsin, where it can be consulted. It is not included in this thesis because of its length.

Portuguese used by the farmers in Pernambuco, and interest in social research. Six of the 15 candidates accepted were female and nine male. The interviewers' training included two weeks of classroom lectures and study of the questionnaire and one week of questionnaire pretesting in the field. The interviewers were not informed of the hypotheses being tested in the study. A strong emphasis was put on scientific objectivity, as it was noticed that there is a tendency among Brazilian students to express their reformist aspirations through the subjects' responses. The interviewers were paid per questionnaire filled out and corrected. All the expenses involved in the field research were paid by the research budget.

4. Field operations

a. Legitimation: Legitimation was very important inasmuch as the Northeast rural areas were rather agitated by political forces at the time of the research. The research was legitimized through press releases published in newspapers in Recife and also in Timbauba, the site of the municipio, long enough in advance so as to spread the news about the research before the team went to the field. The director of the research also paid personal visits to the mayor, the parish priest and the judge. The priest was asked to explain the scientific nature of the study at Sunday masses.

b. Interviewing: the subjects were interviewed at their homes or at the place where they were working at the time. Only a handful of subjects refused to be interviewed. In most places the interviewers were welcomed.

The fear that the research could be interpreted by the farmers

as politically oriented turned out to be unjustified. The interest of the farmers in expressing their views and having their needs and problems known by the authorities and the public was so great that the fears they may have had seem to have been overcome. All in all only two incidents broke the routine of the interviewing operations -- two subjects who were drunk at the time of the interview attempted to become too friendly with the girls who were interviewing them. On one occasion the leader of a small village demanded a letter from his political boss in Timbauba to let his men be interviewed.

The interview was presented as part of a bigger survey "by a Paraguayan professor who is writing a book about life in the Northeast." It was explained that although this book could eventually result in more governmental attention to the farmers' situation, the respondents should not expect immediate consequences, inasmuch as this was a scientific study and not a government survey of the people's needs.

The interviewer team held a meeting every night at headquarters to review the day's operations and to map out the strategy for the next day. In order to avoid the formation of cliques or any suspicion of privilege, the assignment of interviewers to vehicles and respondents was done by random procedures. The interviewers were able to do up to three questionnaires in one day under most favorable circumstances. Very often, however, one questionnaire was all they could fill out because of distance and difficulties in finding the respondents.

Although every night the interviewers were asked to correct each others' questionnaires, at the end of the field period a new general review was requested by the research director in order to correct wrong

or missing information before leaving Timbauba. In several cases the interviewers had to go back to their interviewee's location to complete the questionnaires.

Interviewers were paid by questionnaire filled and corrected. There was, however, a compensatory bonus for the interviewers who, being the last ones to be dropped from the vehicles on the assigned route, had less time to seek their respondents.

Two Volkswagen microbuses were used during the 15 days of interviewing. When the roads to some subjects' locations were too rough a local jeep was hired.

c. Preparation of the data: at the Recife headquarters some of the interviewers who participated in the study were used for the following operations:

1) Copying from the questionnaires all the responses to open-end questions.

2) Coding the responses on the margins of the questionnaires in accordance with coding categories supplied by the research director.

3) Transferring the coded responses from the questionnaire margins to data sheets organized in the format of IBM cards.

The coders were not aware of the hypotheses being tested in the study.

F. OPERATIONALIZATION OF THE VARIABLES

The translation of the theoretical variables into operational, measurable dimensions, is the task of the present section. In all cases operationalization of the dependent variable and the five independent variables will be done by selecting a number of items representative

of the operations suggested by the variable. The reason for doing this is that all the variables in this study are complex, involving several angles or aspects. For example, the range of possible decision-making, as conceptualized in this study, covers not only socioeconomic aspects but also educational aspects affecting that range. The scores for each variable will represent, then the accumulation of the partial scores for each item making up the variable. The operational definition of the dependent variable will be presented first.

A. The Dependent Variable: Intensity of Search for Instrumental Information

This variable, as can readily be seen, involves two dimensions: the instrumental character of communication content and the intensity of search behavior. Operationalization of the variable therefore requires operationalizing the instrumental character and the intensity dimension.

As defined earlier, instrumental content is that which can help the individual make decisions relevant to his and his family's access to goods and services. This definition is still very broad. This type of content is confined in this study to the following subtypes:

1. Political information
2. Economic information
3. Agrarian and class matters information
4. Technological information (agricultural, mechanical)
5. Health information

on the assumption that this is the type of information which could best help the individual who wants to improve his situation.

The operationalization of the intensity dimension requires some indication of the frequency and also of the consistency of instrumental use of the various media of communication.

The dependent variable was therefore operationalized by means of the following data:

1. The frequency of use of 16 media of communication available in the area.[1]

2. The individual's purpose in using each of those media.

3. The type of content the individual attempts to obtain from each media.

Each item will be now more especifically analyzed. Following this the technique of combining the information is presented.

1. Frequency of use of media

For each medium, an initial question - "Do you use Medium X?" filtered out those subjects who did not use it from those who did. To those who answered in the affirmative, a question was presented regarding frequency of use. Now, certain media like radio, newspapers, TV, are related to a weekly frequency reference, but other media such as movies, magazines, fair, are related to a monthly reference. A third type of medium, including such things as loudspeakers, do not have any time unit reference.

For these reasons the coding categories for the frequency of use differed by groups of media. In order to have a general comparability,

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[1] The following is the list of the 16 media used for this purpose: radio, newspapers, magazines, TV, books, folhetos, movies, bulletins, loudspeakers, almanacs, merchants, leaders, travel, fair, home visits and casual meetings.

a final recording was necessary, by which frequency of media use was categorized only into low or high. Some information was thus lost but across-the-board addition was made possible.[1]

2. Purpose for using the media

The following general open question was used for all the media after a previous filter question had separated the users from the non-users:

"What do you use Medium X for?"

The coders were instructed to classify the responses into the categories:

Does not use Medium X

Consummatory purpose

Instrumental purpose

For this they were given detailed types of responses that should fall into each category. In radio, for example, the following types were listed:

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[1] Recording procedure for frequency of use of media:

	Weekly reference	Monthly reference	No time unit reference
HIGH	Listens every day 2-4 times a week Once a week	More than 4 times a month Once a month	Listens frequently
LOW	Less than once a week Very rarely	Less than once a month Very rarely	Listens very seldom

For the recoding only the categories "Low" and "High" (frequency) were used, drawing the cutting line between "once a week" and "less than once a week" for media of weekly reference and between "less than once a month" and "once a month" for the media of monthly reference.

Consummatory purpose: to amuse myself, to spend the time; to have a good time; to listen to singers, to hear talks; to listen to football games; because I like it, etc.

Instrumental purpose: To get news and/or information; to learn things; to get instruction, knowledge, etc.

For responses not included in the given lists, the coders were asked to use their own judgment in line with the operational definitions of the concepts "consummatory" and "instrumental."

3. Type of content sought

While the question, "What do you use Medium X for?" was intended to get at the individual's general purpose in using a particular medium, a second question was asked -- "Which things do you attempt to know through Medium X?" -- aiming at a more detailed knowledge of the instrumental content pursued. This question's purpose was to correct somewhat the limitations of the previous question on "purpose." For example, a person may say that he used Medium X "just for recreation" and this would be coded as consummatory. But if he is next asked what type of things he tries to learn from Medium X, he may mention content that is not precisely recreational but strictly instrumental. A higher score was given to responses which were consistent in both questions. The reverse case is also possible, although perhaps less probable. A person responding that he uses Medium X for an instrumental purpose may, in the question on type of content sought say that what he really tries to get from Medium X is the soccer games (consummatory).

In any case, consistency in giving instrumental responses refers to both the purpose and the type of responses.

The type of content sought was initially categorized as follows:

1. No use
2. Consummatory content
3. Political information
4. Economic information
5. Agrarian information
6. Agricultural information
7. General news
8. Health information

In recoding, political, economic, agrarian, agricultural, health information, and general news, were coded as instrumental content.[1]

Combination of purpose, type and frequency

Obtaining scores for the variable Intensity of Search for Instrumental Information involved, as mentioned, the combination of two sub-dimensions of instrumentality (purpose and type of content sought) and two dimensions of intensity (frequency and consistency). This rather complicated operation followed the procedure now presented:

Responses to be combined

PURPOSE	CONTENT TYPE	FREQUENCY
1. No use	1. No use	1. No use
2. Consummat	2. Consummat	2. Low frequency
3. Instrum	3. Instrum	3. High frequency

[1] The previous more detailed categorization was used in another section for the analysis of the communication process in the Northeast. See Chapter V.

Rules of combination	New variable: Intensity of Search for INstrumental Information (ISII)
If Purpose, or Type, or Frequency = 1	ISII = 1 (No instr. use)
If Purpose - Type = 2; Frequency = any value	ISII = 1
If Purpose = 2 when Type = 3 or Purpose = 3 when Type = 2 and Frequency = 2	ISII = 2 (Low instr. use)
If Purpose = 2 when Type = 3 or Purpose = 3 when Type = 2 and Frequency = 3	ISII = 3 (Med. instr. use)
If Purpose = Type - Frequency = 3	ISII = 4 (High instr. use)

These combinations and the punching of the new combined codes were done with a CDC 1604 electronic computer at the University of Wisconsin Computer Center.

To complete the operationalization of the variable Intensity of Search for Instrumental Information and also to introduce the "consistency" dimension of intensity, the partial scores obtained for each medium were added across 16 media[1] and the total scores thus obtained were used in the testing of hypotheses.

Validity of the dependent variable

In the absence of behavioral criteria to validate the variable Intensity of Search for Instrumental Information, two independent measures were taken and correlated with the ISII scores. These two measures were:

1. Number of sources of information used for specific subject matter areas of rural life.

[1] See list of these 16 media in previous footnote.

2. Level of knowledge about a battery of economic, political, agrarian and technological items.

Each of these measures will be now described in detail.

1. Number of sources of information for specific matters

Several studies mentioned in the review of literature indicate that a person who uses more instrumental information than others obtains it through more channels. (6)(34) The multiplicity of sources to which a person applies for information could then be a good indicator of interest in instrumental information, for the simple reason that using a source involves an effort. So the more the sources, the more the effort and the more interest.

One way to get at the number of sources used by a person is to ask him about the sources he uses for specific types of information. It is expected that for each type of information mentioned the respondent will remember the variety of sources utilized in the past or currently. Another expectation is that he will be talkative enough to tell the interviewer the various sources he used. In any case, this measure has to be crude because it is based on the capacity of the respondent to remember and on his desire to talk at length.

Such a crude instrument is the one used in this study. The general question - "From whom - within and outside this neighborhood do you get information (knowledge, advice, orientation, news) about the following matters?" was followed by a list of specific things of interest to rural people:

a. Purchase, sale or rent of land
b. Taxes
c. Prices of tools and machinery
d. Prices of animals
e. Prices and markets to sell agricultural products

f. Prices of goods (to buy)
g. Payment of labor, workers' rights, strikes, etc.
h. Employment opportunities
i. Electoral, voting, political matters
j. Affiliation with Peasant Leagues, Rural Syndicates or other compones associations
k. Land conflicts
l. Problems of inheritance, succession, etc.
m. New federal or state laws
n. Religious matters (doctrine, baptism, contributions, etc.)
o. Radioschools
p. Other opportunities to acquire more instruction
q. Agricultural problems (seeds, how to plant, plant and animal pests and diseases)
r. Diseases of the family
s. Fiestas, recreation and games
t. Important things happening in other countries of the world

To facilitate recollection, the respondent was asked to remember his sources within his neighborhood and also the sources outside it. An individual's score was obtained counting the different types of sources of information he mentioned for all the specific matters listed.

A correlation test applied to the scores for the dependent variable and the number of types of information sources used by the subject for information about the above 20 matters of rural interest, gave an $r = +.42$, significant at the 0.00001 level.

2. Level of instrumental knowledge

Instrumental knowledge was assumed to be an indicator of instrumental search. It is difficult, in effect, to imagine a person knowing a considerable amount of information of an instrumental character without having sought in one way or another to obtain it.

In order to validate the variable Intensity of Search for Instrumental Information as operationalized in this study, it is possible to show that it is correlated to the knowledge of instrumental information.

Level of instrumental knowledge was measured through a relatively simple quiz-type test, involving a battery of questions in the fields of economics, politics, agrarian problems and technical agriculture. The questions asked were:[1]

1. Economics

   a. How much is 1 cuadro of land worth in this place?

   b. What is the principal export product of Brazil?

   c. What do you understand by inflation?

   d. What is a dollar?

   e. How much interest does the Bank of Brazil charge for agricultural loans?

   f. What is a cooperative?

2. Political

   a. Have you heard about the plebiscite held January 6 this year?

   b. What is democracy?

   c. Can women vote in Brazil?

   d. Who was the Brazilian president who resigned?

   e. Who was the Brazilian president who committed suicide?

   f. What is the name of the present president of Brazil?

3. Agrarian Relations

   a. Have you heard about agrarian law or agrarian reform? If yes, what do you understand by agrarian reform?

   b. Who is Father Melo?[1]

   c. Can the government take land from their owners without payment in cash, to distribute to the workers?

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[1] Father Melo is the leader of the Rural Syndicates, the rival of the Peasant Leagues.

d. If two persons have a conflict with respect to the boundaries of their properties, who is the legal authority who must arbitrate this conflict?

e. What are the legal steps that a man must take in order to register ownership of a piece of land?

f. Do you know the name of a deputy related to the Peasant Leagues?

4. Technical Agriculture

a. Do you use any fertilizer in your farm work?

b. Do you believe that a man can heal his sick animal or defend his crop from pests with rezas (prayers)?

c. Do you use any insecticide against pests?

d. Where do you get seeds to sow?

e. Do you grow the same crop every year in the same place or do you sometimes change crops?

f. Do you let the land rest sometimes?

A score of content knowledge for each subject was obtained by adding the score for each of the above questions (Knows = 2, Doesn't know = 1).

A correlation test applied to the scores for the dependent variable and the scores for the level of instrumental content knowledge gave an r of .62, significant at the 0.00001 level.

The two independent measurements used to validate the dependent variable were also shown to be correlated significantly between themselves. A correlation test applied to them gave an r of .37, which although small, is significant at the 0.00001 level.

In summary, the dependent variable is significantly correlated to two external criteria and this can be taken as effective demonstration of at least a moderate degree of validity.

Reliability of the dependent variable

Although the author of this thesis recognized the importance of taking steps to measure the reliability of the data, the circumstances surrounding the field research in the chosen area made it impossible to interview the respondents for a second time. Several reasons, moreover, permit one to believe that the data for the dependent variable are reliable.

1. The questions involved in this variable were objective, touching only on behavior unrelated to issues of a controversial nature.

2. The respondents were rural people of the Brazilian Northeast, characterized by a candid, unscheming disposition. They say what they think.

3. The interviewers were properly presented to the respondents as having no intention beyond the collection of information about the rural situation.

4. The variable involved asking questions about the use of 16 media, and the variety of items should dilute the probability of answers biased in only one direction.

B. THE INDEPENDENT VARIABLES

The five independent variables used in this study as predictors of the Intensity of Search for Instrumental Information were the following:

1. Range of Possible Decision-Making

2. Dissatisfaction with the Present Situation

3. Evaluation of Oneself

4. Perception of Possibilities for Situation Improvement

5. Activity for Situation Improvement

1. The Range of Possible Decision-Making

An essential presumption of this thesis is that the search for information is a behavioral effect of, among other factors, the operation of some motives. It was explained earlier that one of those motives is thought to be the person's need to cope with the decisions demanded by his status. It is the time now to look at the factors which may influence the range of decisions a man needs and can take.

As this research deals operationally with a rural population, it is necessary to look for factors which, if possessed by the subjects, will put them in the position of making more decisions than others who do not possess those factors. Inasmuch as this variable is supposed to represent the limitations and facilitations exerted by the social structure on the individual, an effort should be made to avoid introducing here personality limitations for decision-making ability, such as intelligence, level of energy, etc.

Three main dimensions were utilized in the operationalization of this variable in the conviction that together they capture the range of possible decision-making of an individual in the particular conditions of the Brazilian Northeast. Those dimensions are the following:

a. The individual's relation to the production factors: land, capital and labor.

b. The diversity of occupational roles he performs.

c. His educational horizon.

A brief discussion of how each operational dimension was worked out follows:

a. Relation to the production factors. The relative control of land, capital and labor is relatively simple to operationalize. As far as land is concerned, it should be remembered that there are different types of tenure and of tenure arrangements which influence the degree of control the subjects have over land and therefore the range of decisions to make. Thus a farmer who owns the land has more decisions to make than another farmer who only rents it. On top of the normal farming decisions, the owner faces decisions such as selling or buying part or all of the property, paying taxes, contracting renters, obtaining credit, joining or not joining movements aimed at defending private property, etc. Consequent with this, it was thought that the owners should be given a heavier weight than the non-owners in any scoring system of decision-making.

Capital could be operationalized in terms of income, number of animals, number of tools, savings, credit potentials, etc. Because of the difficulties encountered in using items which would apply to the various types of subjects in the sample, in this thesis only an indirect indicator of income was used to represent capital.

Labor was operationalized through the number of workers supervised by the individual.

In summary, the relation to the production factors was represented by the following items:

1) Size of land controlled

2) Income

3) Number of workers supervised

We will now analyze each item in detail.

1) Size of land controlled: It was not easy to arrive at an accurate measurement of this item because the sample consisted of landowners, managers, renters and hired workers. The variety of tenure types introduced a variety of units of area measurement. For scoring, all these units were converted into hectares.

The questionnaire provided separate data for land owned and for land rented according to the following distribution among the 221 subjects of the sample:

Land owned		Land rented	
Very small: less than 5 Ha	30	Small: less than 5 Ha	87
Small: 5 to less than 10 Ha	26	Medium: 5 to 20 Ha	24
Medium: 10 to less than 100 Ha	40	Big: More than 20 Ha	9
Big: 100 to less than 500 Ha	6	No response	1
Very big: More than 500 Ha	5		
No response	1		
Total	108		121

The figures reflect some overlapping since some landowners also rent land. In order to give more weight to possessing land as against working somebody else's land, the scores for the size of land owned were duplicated and added to the scores for land rented. That is, by 2, while a person renting or working X hectares has a score for X without modification.

2) Income: Because of the different ways in which they obtain their income, the questions put to the respondents were different:

a) The landowners were asked how much they made per year in their property. Because of an oversight the question did not specify whether "gross" or "net" income was being asked. b) The renters were asked how much income they made per year on their rented land. However, they were not asked how much they pay the landowner for rent. c) The hired workers were asked how much they make per day and how many days they work in the year and also how much they get from their rocados.

The information thus gathered was hopelessly inconsistent: the landowners reported farm income figures without explaining whether they were gross or net. Moreover, probably because of fear of some tax implication of the research, the figures reported were unbelievably low. The renters, on the other hand, and many small landowners did not keep any record of their farm output, since they consumed part of it and sold part at various times during the production period; the hired workers reported accurately their daily wage but they had no more than a vague idea of the cruzeiro equivalent of the output of their small subsistence plots.

Because of this unclear picture the item on real income was replaced by another indicator, perhaps as unreliable as "income," but which at least avoided arousing mistrust and false responses. The subjects were asked to recall "the largest amount of cash they had at one time in their life." It was assumed that people who currently have high incomes must have had their hands on bigger sums than workers and small renters. Also it was assumed that, because of the inflation, each person must have had his life's largest sum within the last few months, and therefore the measure could serve to compare the relative

income. The measure, of course, is a gross one, depending largely on memory and perhaps on imagination and does not lend itself to fine discriminations. The distribution of responses for this question was the following:

1. Had less than 5,000 cruzeiros	25
2. 5,000 to less than 50,000	116
3.50,000 to less than 100,000	24
4. 100,000 to less than 500,000	31
5. 500,000 to less than 1 million	5
6. 1 million to less than 3 million	8
7. 3 million or more	5

3) Number of workers supervised: The word "workers" included not only the workers but also the renters and sharecroppers working inside the property. Although at first sight it may be argued that the number of workers supervised will be a function of the size of land controlled, therefore adding no new information to that provided by the previous item, this may or may not be so. The number of workers supervised depends not only on the amount of land to be cultivated but also on the type of agricultural operation run, the proportion of the total land being actually worked, the available cash the workers are paid, the rhythm of operations imposed by the landowner, etc.

We will now analyze the second dimension of the range of possible decision-making.

b. Diversity of occupational roles. The subjects were asked: "Do you work only in agriculture or do you have another occupation besides agriculture?" The responses were coded according to a

"distance from agriculture" criterion: the further the additional occupation was removed from agricultural work the more the variety in the decisions to be made could be expected and the less overlapping with the decisions to be made as a farmer. Therefore a higher score was given to the individual. The sequence and scores employed are the following:

0. No response
1. Works only in agriculture
2. Craft connected with agriculture
3. Occupation not connected with agriculture
4. Merchant
5. Government employee

The crafts connected with agriculture included jobs that are carried out within farms but which do not consist of farming the land. Some examples of this category are the serralheiro, whose job is to saw logs and produce boards eventually used for farm buildings; the cargueiro, who is in charge of the horses, mules and burros employed in transporting the cane from the fields to the sugarmill; the cocheiro, who takes care of the carts, and the foguista de engenho, who watches the boilers where the cane juice is transformed into molasses.

The occupations not connected with agriculture include jobs like those of barber, baker, nurse, bricklayer, shoemaker, etc. which, of course, can be performed in a farm setting but are not limited to this setting. They can be performed in an urban setting as well.

The merchant occupation was given a higher score in relation to its decision-making potentials because it involves a more complex

operation than the occupation previously described and requires decisions that are removed from agriculture. It involves buying and selling, granting or refusing credit, learning fluctuations of the prices, choosing goods from the various suppliers. It involves many human relation decisions aimed at keeping the clientele, etc.

Finally, the government employee category, of which there was only one representative in the sample, is located highest in the sequence because the decisions to be taken are more varied - political, economic, technical, social - (and in general of higher relevance) than the ones to be taken by members of the other occupations.

c. Educational horizon. At least in the conditions of the Northeast, the level of education a man can obtain in his early years is hardly a matter of individual decision, but a product of the structural conditions in which he happens to exist. This environmental determination of the educational horizon is clearly seen through the responses given by the subjects in the sample questions: "Why did you not go to school?"

He did go to school	120
His parents (or family) did not send him; the family conditions were such that they demanded his starting to work very early	63
There was no school or it was too far	24
He was not interested, went to school but disliked it and quit; he was afraid of punishments	12
Other reasons	2
Total	221

Only 12 of the responses point to a personal decision in relation to school attendance.

What happens in relation to schooling happens also to literacy, which by and large can be said to be socially conditioned.

The codes used for literacy and education were the following:

Literacy	Education
1. Illiterate and nobody in his family reads for him	1. Never attended school
2. Illiterate but somebody in his family reads for him	2. Attended first grade
3. Literate	3. Attended second grade
	4. Attended third grade
	5. Completed primary school
	6. Attended "ginasio"
	7. Attended colegio
	8. Attended university

In Chapter V, Description of the Sample, the number of respondents falling in the above categories is given.

Now what is the relationship between a person's socially determined educational horizon, indexed by his schooling and literacy, and his range of possible decision-making?

The same way that the possession of land or of supervisory responsibilities, or of more complex occupational roles, increases the range of decisions to be taken, the possession of the capacity for decision coming from education, increases the range of possible decision-making. Education not only provides the ability to make decisions but also reinforces the ability to perceive when decisions have to be made. The role of education in expanding the decision-making ability of farmers

is acknowledged by Mosher (33) when he writes:

> It is this fact of ever increasing complexity of economic life and the necessity for an increasing capacity to make choices that gives educational measures for agricultural development much of their superiority over directives to farmers to adopt this or that changed practice. If agricultural development is to be continuous and cumulative, it depends partly on an increasing ability of individual farm operators to absorb new knowledge and to weight alternative and make choices.

It may be asked now why both schooling and literacy are included as indexes of the educational horizon of a person and indicators of his range of possible decision-making? Would not schooling subsume literacy? Not necessarily. Not only does the absence of schooling not necessarily presume absence of literacy, (in other words there may be many subjects in the sample who never went to school, but who learned reading on their own), but also some individuals who went to school are now for all practical purposes illiterate. That there is not a one-to-one relationship between schooling and literacy is illustrated in the present sample by this simple fact: while only 103 subjects said they never went to school, 121 subjects said they were illiterate. The application of a functional literacy test would no doubt increase the number of illiterates in the sample.

Construction of the Index for the Variable Range of Possible Decision-making (RPDM)

In summary, this independent variable consisted of the following items:

1. Size of land controlled
2. Highest amount of cash possessed at one time during lifetime

3. Number of workers supervised

4. Nature of occupational role

5. Degree of schooling

6. Literacy

The final index of RPDM was obtained by factor-analyzing these 6 items and by correcting the original scores with the factor loadings obtained from the factor analysis. A general score was obtained by simple addition across items.

Validity of the Range of Possible Decision-making

Assuming that we could attribute face validity to the items composing this variable, in the sense that they measure the most important factors allowing a person to have a wide or narrow range of decision, we still face the issue of the internal consistency of the items. This problem was solved through the application of factor analysis to all the items. The following is the information provided by factor analysis:

Independent Variable No. 1 - Range of Possible Decision-making

Items	Means	Standard Deviations
1. Literacy	2.07	.91
2. Schooling	2.24	1.63
3. Control of land	3.96	2.27
4. Top cash possessed	2.58	1.40
5. Occupation	1.51	1.02
6. Workers supervised	1.54	.76

The following matrix shows the intercorrelation among the items:

Matrix 1. INTERITEM CORRELATIONS
RANGE OF POSSIBLE DECISION-MAKING

	1	2	3	4	5	6
1	--	.57	.37	.29	.18	.41
2		--	.47	.41	.10	.58
3			--	.39	.14	.67
4				--	.12	.51
5					--	.24
6						--

With the exception of the correlations of item 5, Occupation with all the other items, the correlations among the items are relatively high.

This is evidenced by the factor loadings on the only factor determined by factor analysis:

	Factor I
1. Literacy	.68
2. Schooling	.79
3. Land control	.77
4. Top cash possessed	.66
5. Occupation	.30
6. Workers supervised	.86

The amount of variance accounted for in the matrix by this only factor was 100%.

The conclusion is then that all the items in the index for range of possible decision-making are significantly correlated with one factor,

which demonstrates that the variable is unidimensional for it is internally consistent.

Reliability of the Range of Possible Decision-making

Here again, as was the case in the dependent variable, the items cover areas of interrogation in which the respondents are not expected to show a systematic tendency to distort the facts. It is granted that there may have been a tendency on the part of a few of the subjects to claim more schooling, more cash, and even to claim to be literate when in fact they were illiterate. It may have also been a tendency to claim less land owned or worked and less number of workers. On the whole, however, these tendencies may be assumed to compensate one another. And again, on the basis of experience it is believed that the farmers of the Northeast are truthful and straightforward.

2. Dissatisfaction with the Present Situation (DPS)

There are many ways to ascertain a person's dissatisfaction with his present situation. One possible way could be to ask him a direct question: "Are you satisfied with your present situation?" Another approach could be to ask the person for the description of the situation he would want to have and then see whether, in describing it, he is departing little or much from the characteristics of the present situation. A third approach could be to measure some symptoms of dissatisfaction, such as a willingness to move somewhere else or to quit the present occupation.

The direct approach, although apparently more valid than the others, may produce misleading responses. In the first place, a

question such as "Are you satisfied with the present situation?" is too general and does not take into account that the subject may be satisfied with some aspects of his situation and dissatisfied with others. A direct question on dissatisfaction may also bring pressures for culturally-approved responses. Would the Northeast rural people, for instance, acknowledge publicly, before strangers (the interviewers), the conflict between their aspirations and their reality? Whey saying "I am satisfied", would they really mean it?

In order to compensate for possible weaknesses, all three approaches were used in the operationalization of DPS in this thesis. Questions were designed to elicit the following types of responses:

a. The subject's evaluation of his own life.

b. His willingness or unwillingness to leave his present habitat, and agriculture as an occupation.

c. His desire to change specific aspects of his situation and the importance he attributes to the change.[1]

a. Evaluation of one's life

This dimension was ascertained through one simple question: "How has life treated you; well, more or less, or badly?"

In relation to dissatisfaction, the responses were scored higher the worse life was reported to have treated the subject.

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[1] This dimension satisfies one of the intervening factors assumed to mediate between dissatisfaction and its behavioral manifestations.

b. Willingness to leave the place and willingness to leave agriculture

These two separate questions gave a higher score to the willingness to leave as an indicator of dissatisfaction.

c. Desire to change specific aspects of the situation

This dimension was measured through a battery of questions such as "Do you find the size of your property sufficient or do you think you need more land?" and "Would you like or need to have more animals?" Similar questions were asked about the following specific aspects of the situation: land, animals, tools, income, land productivity and instruction of knowledge.

It was considered essential to introduce here a dimension of "importance of the change for the individuals," because within the framework of motivation theory, incentive for change will depend upon the relative attractiveness of the goal. (See Figure 1)

The dimension of importance was introduced in the operationalization of dissatisfaction by following the previously described question with another:

"Is it important or not for you to have more land (or animals, or tools, etc.)?" The response categories were simply:

1. Not important
2. Important

For the final coding, the responses were categorized as follows:

1. Does not need more (land, animals, etc.).
2. Does need, but it is not important for him to get more.
3. Does need, and it is important for him to get more.

The same pattern was applied to all the specific aspects of the situation.

Construction of the Index for the Variable Dissatisfaction with the Present Situation (DPS)

In summary, this independent variable consisted of the following items:

1. Perception of how life has treated the subject.
2. Willingness to leave the place.
3. Willingness to leave agriculture.
4. Need or wish to work more land.
5. Need to own more animals.
6. Need to own more tools.
7. Need to have a higher income.
8. Need to have increased land productivity.
9. Need to have more instruction or knowledge.

These items were submitted to factor analysis and the following results were obtained:

Independent Variable No. 2 - Dissatisfaction with the Present Situation

Items	Means	Standard Deviations
1. Willingness to leave the place	1.26	.44
2. Willingness to leave agriculture	1.66	.96
3. How life treated him	1.87	.65
4. Needs more land	2.16	.94
5. Needs more productivity	1.88	1.03
6. Needs more animals	2.66	.75
7. Needs more tools	2.29	.97
8. Needs more income	2.66	.79
9. Needs more knowledge	2.51	.93

The following matrix shows the intercorrelation among the items:

Matrix 2. INTERITEM CORRELATIONS DISSATISFACTION WITH PRESENT SITUATION

	1	2	3	4	5	6	7	8	9
1	--	.28	-.006	.15	-.03	.18	.15	.09	.07
2		--	.001	.17	.05	.03	.04	.15	.12
3			--	.06	-.01	.04	-.004	.01	.06
4				--	-.12	.18	.22	.11	.08
5					--	.09	.03	.04	.15
6						--	.28	.28	.07
7							--	.17	.10
8								--	.21
									--

This matrix shows a general picture of low and even negative correlations. There seems to be several dimensions in this index. This fact was confirmed by factor analysis, which showed the presence of four factors. The following are factor loadings, after rotation:

	Rotated factors			
	I	II	III	IV
1. Willingness to leave place	.19	-.07	.69	.09
2. Willingness to leave agriculture	-.08	.17	.83	-.03
3. How life treated him	-.03	.02	-.07	-.92
4. Needs land	.43	-.33	.38	-.28
5. Needs productivity	-.02	.77	-.08	.14
6. Needs animals	.74	.09	-.006	.005
7. Needs tools	-.05	-.05	.04	.04
8. Needs income	.53	.33	.14	-.06
9. Needs knowledge	.15	.62	.20	-.28
Variance accounted for by each factor	18%	14%	15%	12%

We leave out factor IV because it accounts for only 12% of the total variance. If we eliminate from the first three factors the items with very low loadings, the list of items for each factor become the following:

I		II		III	
4. Needs Land	.43	5. Needs product	.77	1. Willingness to leave place	.69
6. Needs animals	.74	9. Needs knowledge	.62	2. Willigness to leave agric.	.83
7. Needs tools	.71				
8. Needs income	.53				

This proves that the variable Dissatisfaction with the Present Situation, as originally operationalized, is not unidimensional.

Factor I seems to indicate a desire to change the relation of the farmer to the production factors.

Factor II seems to refer to a more refined aspiration, that of increasing knowledge and productivity, i.e., an aspiration for technological improvement.

Factor III indicates a tendency to change occupation and habitat.

Validity of the variable Dissatisfaction with the Present Situation

The above description of the results of factor-analyzing this variable shows that it is composed by three main factors. Inasmuch as about the same proportion of the variance is accounted for by each of these factors, for the final analysis the variable Dissatisfaction with the Present Situation was replaced by all three factors, and each of them was used separately as an independent variable. The results of the multiple regression equation in which these three factors are used as predictors are given in Chapter VI.

No external test of validity was applied to these factors.

Reliability of Dissatisfaction with the Present Situation

Because no re-interviewing was done, no data about reliability can be offered. An estimate of reliability, however, can be optimistic based on the assumption that the farmers of the Northeast are generally truthful and straightforward and that the impressionistic observation of the interviewers was that there was a great consistency in the general pattern of responses.

3. Self-evaluation (SE)

Admittedly, this variable would require, for its operationalization, a rather complex index in order to justify the complexity of man's perception of himself. For reasons of sheer manageability, however, in this study this variable was operationalized with the utmost simplicity. Great revelations were not therefore expected, but at least an initial lead for future deeper treatments was presented.

Out of the many societal roles that farmers in the Northeast perform in their everyday life, only a handful of them may be applicable to all the kinds of subjects in the sample. A man in the rural Northeast may be a husband, a father, a member of a church or religion, a member of a class association, etc. But these roles can not be expected to be performed by everybody in the sample. Therefore, only the following roles were employed as indicators of the evaluation of himself:

1. Evaluation of himself as a citizen
2. Evaluation as a friend of his friends
3. Evaluation as an agriculturalist

Also included in the index were evaluations of himself along certain general dimensions, such as:

4. Evaluation of his freedom of decision

5. Evaluation of his ability to find his own happiness

6. Evaluation of his personal prestige

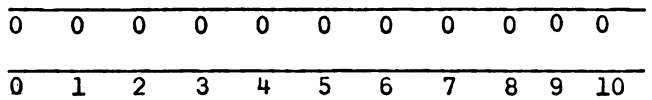
7. Evaluation of his popularity or social acceptance

Finally, an item attempted to measure the evaluation of himself as a global dimension in order to take the place of all the partial evaluations of himself which were not asked about specifically. The item was

8. Evaluation of his own life

The measurement of these evaluations of himself was done as follows:[1]

A wooden ruler on which a ladder was designed with black ink was handed to the respondent. On each step of the ladder there was a hole into which the respondent could introduce a small stick provided with the ruler. The steps of the ladder were numbered from 0 to 10.



Instrument used to measure self-ratings.

Each item was presented to the subject in the form of the following type of question:

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[1]The principle for this method was employed first by Hadley Cantril and Lloyd A. Free in "Hopes and Fears for Self and Country", American Behavioral Scientist, Vol. 6, No. 2, 1962.

"Here is a ladder. Please imagine that the top of this scale represents the best (citizen, friend, agriculturalist, life, etc.) possible; the bottom of the scale represents the worst (....) possible. In what step of the ladder do you think you are now as a (.....)?"

The ladder worked quite well in most instances during the interviewing. However, in some cases certain respondents refused to use the ruler, perhaps fearing that holding it committed them to some unknown action or magic spell. In those cases the interviewers used their ingenuity to arrive at an equivalent self-rating.

The frequency distribution of the responses for all the items show a general tendency toward the higher scores, equivalent to a favorable self-evaluation. The spread of the responses, however, is sufficiently large to believe that the instrument has an acceptable discriminatory power.

The final individual scores for the variable were coded only from 0 to 9 because of computer requirements.

Construction of the index for the variable Self-evaluation (SE)

The items making up this variable were submitted to factor analysis, with the following results:

Independent variable No. 3 - Self-evaluation

		Mean	Standard deviation
Items:	1. As a citizen	7.39	2.02
	2. As a friend	8.07	1.57
	3. As an agriculturalist	7.76	1.72
	4. Freedom of decision	6.58	2.48
	5. Ability to find happiness	6.79	2.42
	6. Prestige	7.62	2.02
	7. Popularity	8.20	1.54
	8. Own life	5.85	2.38

The following matrix shows the intercorrelation among these items:

Matrix 3. INTERITEM CORRELATIONS
SELF-EVALUATION

	1	2	3	4	5	6	7	8
1	--	.58	.13	.22	.15	.32	.38	.28
2		--	.16	.16	.09	.28	.36	.17
3			--	.09	.12	.27	.18	.16
4				--	.47	.28	.09	.29
5					--	.38	.24	.35
6						--	.48	.25
7							--	.20
8								--

Factor analysis showed the presence of the following factors, unrotated.

Items	Factors I	II
1. Citizen	.67	-.42
2. Friend	.61	-.53
3. Agriculturalist	.38	.05
4. Freedom of decision	.53	.55
5. Ability to find happiness	.59	.60
6. Prestige	.72	.02
7. Popularity	.65	-.31
8. Own life	.56	.30

After rotation, the loadings were:

Items	I	II
1. Citizen	.79	.11
2. Friend	.80	-.02
3. Agriculturalist	.33	.20
4. Freedom of Decision	.06	.76
5. Ability to find happiness	.07	.83
6. Prestige	.53	.47
7. Popularity	.70	.17
8. Own life	.24	.59

Factor I was found to account for 28% of the total variance and factor II for 24%.

To represent the variable, it was decided to use the first "principal component," or first unrotated factor, because all the items make a modest to high positive contribution to it. Final scores were obtained weighting the original scores with the factor loadings, normalizing them and summing across all items.

Validity of the variable Self-evaluation

The items composing this variable can be assumed to have face validity or logical validity, within the framework of its definition in this thesis. In regard to internal consistency, after rotating Matrix 3 (page 102) and eliminating the items that contribute little, we have the following composition of the factors:

Factor I		Factor II	
1. Citizen	.79	1. Freedom of decision	.76
2. Friend	.80	2. Ability to find happiness	.83
3. Prestige	.53	3. Prestige	.47
4. Popularity	.70	4. Evaluation of own life	.59

After rotating, Factor I seems to represent a dimension of socially conditioned self-evaluation, while Factor II seems to represent a dimension

of more personally determined self-evaluation. This would seem to indicate that the variable is not unidimensional. However, it was decided not to split the variable, as in the case of Dissatisfaction with the Situation, inasmuch as the principal component shows the first unrotated factor relatively well correlated to all the items. The principal component was used then to represent the variable.

Reliability of the variable

There are no indications in the data supporting or denying the reliability of the responses to the items composing the variable self-evaluation. Moreover, the extremely subjective character of the instrument, and the arbitrary division of the scale into 10 steps do not suggest a very high reliability of the instrument.

4. Perception of Possibilities for Situation Improvement (PPSI)

This variable was operationalized along two aspects of the situation:

a. The individual's outlook on the improvement posibilities of the social dimensions of the situation;

b. The individual's outlook on the improvement possibilities of the personal aspects of the situation.

Only one item (the first in the following list) tries to tap the social dimension:

1. Belief that local problems can be solved.
2. Expectation that the future will bring fulfillment of desires.
3. Perception of possibilities for obtaining land (or more land).
4. Perception of possibilities for more land productivity.
5. Perception of possibilities for having more animals.
6. Perception of possibilities for having more tools.
7. Perception of possibilities for having a higher income.

8. Perception of possibilities for obtaining more credit
9. Perception of possibilities for obtaining more knowledge and information.

1. Belief that local problems can be solved.

The question, "Which are, for you, the main difficulties or problems of this place?" was followed by the question, "Do you think these problems can be solved?" Responses to the latter question were coded so as to give more weight to the affirmative.

2. Expectation that the future will bring fulfillment of desires

Two questions were necessary: the first -- "Thinking of the future, what do you desire for your life? (What is missing for you to be happy?)" was an open question. The follow-up question was, "Do you think you will have those things some day?"

For correction purposes the latter question was followed by another asking, "Why do you find it so?" In several instances a person replying that he did not expect to have the desired things some day, when asked "why?" gave reasons why he did expect to have them and vice versa.

Items 3 to 9: the same type of question was used in each item to measure the perception of possibilities for improvement: "Do you find that there are many, few, or no possibilities for you to have more.....?" The coded response categories were:

1. No possibilities
2. Few possibilities
3. Many possibilities

Here again the question, "Why do you find it so?" followed the other question in order to correct the responses. It seemed that when the subject is asked to explain a response, he thinks over the matter more carefully and comes out with an apparently more reliable answer than when he is simply presented a list of exclusive categories.

Construction of the index for the variable Perception of Possibilities for Situation Improvement (PPSI)

Factor analysis was used in order to obtain weights to correct the scores on the basis of the relative contribution of the items to the variable's main dimension.

Independent Variable No. 4 - Perception of Possibilities for Situation Improvement

Items	Means	Standard Deviations
1. Local problems will be solved	1.76	.44
2. Future wishes will be fulfilled	1.84	.37
3. Possibilities for obtaining more land	2.26	.77
4. Possibilities for more productive land	2.64	.62
5. Possibilities for having more animals	2.27	.71
6. Possibilities for having more tools	2.40	.68
7. Possibilities for having a higher income	2.40	.65
8. Possibilities for obtaining more credit	2.28	.69
9. Possibilities for obtaining more knowledge	2.61	.59

The following matrix shows the intercorrelations among the items.

Matrix 4. INTERITEM CORRELATIONS
PERCEPTION OF POSSIBILITIES FOR SITUATION IMPROVEMENT

	1	2	3	4	5	6	7	8	9
1	--	.12	.07	.07	.14	.05	.02	-.001	.10
2		--	.01	.04	.10	-.03	.10	.03	.08
3			--	.24	.26	.14	.33	.16	.19
4				--	.08	.02	.08	.04	-.001
5					--	.27	.41	.13	.13
6						--	.21	.15	.09
7							--	.20	.14
8								--	.07
9									--

Factor analysis, including varimax rotation showed that this variable is composed of the following factors:

	I	II	III
1. Local problems will be solved	-.04	.68	.12
2. Future wishes will be fulfilled	-.04	.69	-.02
3. Possibilities for obtaining more land	.46	.05	.59
4. Possibilities for more productive land	-.07	.02	.89
5. Possibilities for having more animals	.65	.27	.11
6. Possibilities for having more tools	.63	-.04	-.12
7. Possibilities for having a higher income	.69	.13	.18
8. Possibilities for obtaining more credit	.50	-.11	.05
9. Possibilities for obtaining more knowledge	.30	.43	-.05
Percentage of total variance	21%	14%	14%

For representing the variable it was decided to use Factor I which accounts for the largest portion of the variance. The fact that Factor I includes 6 of the 9 items of the variable is an additional reason for using it. Each respondent's score on each of the items was corrected on the basis of the factor loading, then normalized, and then summed across all the items.

Validity of Perception of Possibilities for Improvement

For this variable, face or logical validity is also claimed.

Factor analysis was used as a test of internal consistency and the results were somewhat negative. If we eliminate the low figures in the three rotated factors described above, we have the following composition of the factors found:

Factor I

3. Possibilities for obtaining more land	.46
5. Possibilities for having more animals	.65
6. Possibilities for having more tools	.63
7. Possibilities for having a higher income	.69
8. Possibilities for obtaining more credit	.50
9. Possibilities for obtaining more knowledge	.30

Factor II

1. Local problems will be solved	.68
2. Future wishes will be fulfilled	.69
9. Possibilities for obtaining more knowledge	.43

Factor III

3. Possibilities for obtaining more land	.59
4. Possibilities for more productive land	.89

The first factor seems to involve the person's perception of possibilities for improvement with respect to production factors.

The second factor points to the person's outlook on needs on a more subjective level. The third factor seems to refer to land, not just as one of the tools of production but as a basic factor for improvement. It may be concluded that the variable has at best a modest degree of validity.

Reliability of the variable Perception of Possibilities for Improvement

The question posed to the respondents by this variable does not touch on issues that may threaten the security or the ego-image. Therefore they were unlikely to elicit unreliable responses. However, some bias may have been introduced by the respondents' possible perception of the interviewers as probable instruments for the improvement of their situation. No retesting was carried out to ascertain the reliability of the responses.

5. Activity for Situation Improvement (ASI)

This variable attempts to measure the difference between the persons who are doing something to improve their situation and those who do not do anything or do less than others. Its operationalization consisted simply in asking the respondents whether they were doing something to improve their relation with the production factors:

1. Doing something to obtain land, or more land
2. Doing something to obtain more animals
3. Doing something to obtain more tools
4. Doing something to obtain more income
5. Doing something to obtain more credit

The question was worded, in every case, in the following fashion: "Are you trying to do or are you doing something to acquire or to acquire more.....?"

Construction of the index for the variable Activity for Situation Improvement (ASI)

Factor analysis was used to weight the original scores in proportion to the contribution of each item to the total variance.

Independent Variable No. 5 - Activity for Situation Improvement

Items	Means	Standard Deviation
1. Doing something to obtain more land	1.53	.50
2. Doing something to obtain more animals	1.54	.50
3. Doing something to obtain more tools	1.59	.49
4. Doing something to obtain more income	1.70	.46
5. Doing something to obtain more credit	1.33	.47

The following matrix shows the intercorrelations among the five items.

Matrix 5. INTERITEM CORRELATIONS
ACTIVITY FOR SITUATION IMPROVEMENT

	1	2	3	4	5
1	--	.27	.20	.22	.27
2		--	.29	.17	.16
3			--	.19	.20
4				--	.20
5					--

Although not with a high coeficient, each item seems to be correlated to every other, as was expected. Factor analysis offered only one factor whose unrotated form was composed as follows:

Unrotated factors	I
1. Doing something to obtain more land	.66
2. Doing something to obtain more animals	.63
3. Doing something to obtain more tools	.61
4. Doing something to obtain more income	.55
5. Doing something to obtain more credit	.58

The respective loadings served to weigh the original scores, which, after being normalized, were summed across all the items to produce final scores for the variable. This single factor accounts for 100% of the total variance.

Validity of the variable Activity for Situation Improvement

No behavioral or external criteria were used to ascertain the validity of this variable but factor analysis was used to test the internal consistency, with favorable results. The variable is a unidimensional one, and refers to the action being taken by the person to improve his situation, particularly in regard to the production factors.

Reliability of the variable Activity for Situation Improvement

No reliability test was applied. The items in general do not touch on controversial or security-threatening issues which could distort responses. HOwever, it is likely that a bias favorable to the affirmative side could have been introduced. When a person is asked, "Are you doing something to improve your situation?" he is more likely to respond that he is, even if he is not doing anything. In other words, although internal consistency was demonstrated in this variable the whole pattern of responses may still be skewed toward more activity for improvement than is really present. Whether this bias existed or not in our data is not known.

SUMMARY OF CHAPTER IV

This chapter contained the design of the present research. It opened with an explanation of the theoretical frame of reference arrived at in Chapter II, and the rationale behind the variables. The relationships among the variables were spelled out in the form of theoretical hypotheses. Next the sampling and interviewing procedures utilized in this research were described. Finally, the theoretical variables were operationalized and some comments were made about the validity and reliability of the operational variables. The next chapter will present information about the characteristics of the sample and Chapter VI will present the results of the study.

CHAPTER V

DESCRIPTION OF THE SAMPLE

A. INTRODUCTION

A secondary but important objective of this study was to obtain a comprehensive picture of the communication process in an underdeveloped rural area. It was the author's conviction, following Daniel Lerner (27) that there is a close relationship between the stage of development of a society and the stage of development of its communication system.[1]

For this reason, the description of the sample, which this chapter will present, includes data on the various aspects of the communication process.

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[1] Lerner's model shows the following differences between the characteristics of the oral systems which predominate in the traditional society, and the mass media systems which develop in the modern society.

	Media	Oral
Channel	Media transmission	Face-to-face
Audience	Heterogenous (mass)	Primary groups
Content	Descriptive	Prescriptive
Source	Professional	Hierarchical

The model reveals historical direction of the movement, according to Lerner, from the oral to the media systems, in all societies.

B. CHARACTERISTICS OF THE SAMPLE

The characteristics of the sample are presented in the following order:[1]

1. Demographic characteristics

2. Perceptions, values and aspirations

3. Social participation

4. Knowledge horizon

5. Communication behavior

Below is a discussion of the demographic characteristics of the sample.

1. Demographic characteristics

Among these characteristics, the following will be included: land tenure and personnel supervised; age; literacy and schooling; number of dependents; mobility and urban experience; occupation; facilities.

a. Land tenure

With regard to theirrelation to the land, the 221 subjects of the sample could be classified as follows:

Table 4. Tenure Types

	F	%
Landowners	106	48
Managers	8	4
Renters and sharecroppers[2]	42	19
Hired workers	65	29
Total	221	100

[1]No test of significance will be applied to the data presented in this chapter, inasmuch as its purpose is not testing hypotheses but only presenting background information and interpreting only the most obvious differences.

[2]Throughout the thesis the words "renters" and "sharecroppers" will be used to indicate the same types of individuals.

The size of the farms worked by the respondents of this sample is shown by the two following tables, the first detailing the land owned and the second the land rented or worked.

Table 5. Size of Farms Owned

	F	%
Less than 5 Ha.	30	28
5 to less than 10 Ha.	26	24
10 to less than 100 Ha.	40	37
100 to 500 Ha.	6	6
More than 500 Ha.	5	5
Total	107	100

Table 6. Size of Land Rented or Worked

	F	%
Less than 5 Ha.	87	73
5 to 20 Ha.	24	20
More than 20 Ha.	9	7
Total	120	100

Some landowners also rent land and this fact explains why these two tables overlap somewhat.

c. Personnel supervised

For small farms the workers may be the family members, but for larger operations they may be renters who pay their rent with personal labor, or farm laborers contracted on a wage basis who may live on the

farm or outside it. The number of people employed by the respondents in this sample were the following:

Table 7. Number of Workers Supervised[1]

	F	%
None	131	60
1 to 9	67	30
10 to 49	16	7
50 or more than 50	7	3
Total	221	100

d. Age

The age distribution in the sample was:

Table 8. Age of the Respondents

	F	%
Up to 30 years of age	59	27
From 30 to less than 50	95	43
50 or more	67	30
Total	221	100

e. Literacy and schooling

Although half of the sample consisted of owners of land, the number of self-reported illiterates in the sample was quite high.

[1] These figures do not include the unsalaried children of the moradores.

Table 9. Literacy

	F	%
Illiterate		
a. Illiterate with nobody to read to him	84	38
b. Illiterate with somebody to read to him	37	17
Total illiterates	121	55
Literate		
Total	221	100

Literacy was ascertained through a direct question without using a functional literacy test. Therefore it is suspected that many who said they were literate may be actually illiterate. Literacy distributes among the four tenure groups as follows:

Table 10. Literacy by Tenure Groups (In % of N for each group)

Tenure group	N	Illiterate		Literate		
		F	%	F	%	Total %
Landowners	106	44	41	62	58	99
Managers	8	1	12	7	88	100
Renters & Sharecroppers	42	23	55	19	45	100
Hired workers	65	53	82	12	18	100
Total	221	121	-	100	-	100

A random sample of the total rural population would most probably yield a much higher average rate of illiteracy. In this sample the

population's proportion of renters and hired workers is considerably under-represented.

A high number of respondents in the sample never went to school. By tenure groups, schooling[1] is distributed as follows:

Table 11. Schooling by Tenure Groups (in %)

Schooling	Landowners (N=106)	Managers (N=8)	Renters (N=42)	Hired workers (N=64)	Total 22	
	%	%	%	%		%
Never attended	35	38	50	65	103	47
First Grade	22	12	21	26	50	23
Second Grade	14	25	2	5	21	9
Third Grade	12	12	14	2	22	10
Completed primary	5	12	12	2	11	5
Attended Junior H.S.	5	--	--	--	6	--
Attended Senior H.S.	6	--	--	--	6	--
Attended University	1	--	--	--	1	--
Total	100	99	99	100	220	

This table is a reflection of the educational situation in the Northeast. While 35% of the landowners never attended school, 65% of

[1] Primary school includes 6 grades in Brazil and high school is divided into two stages, the ginasio stage (4 years) in which a general instruction is provided and the colegio state (3 years) in which students who are planning a humanities career are exposed to a different curriculum from students who plan a teachnical career or have more technical inclinations. Subjects in this sample listed under Junior H.S. and Senior H.S. either attended those stages for some time or completed them. In practice only 1 out of the 6 who attended Junior H.S. completed it but 4 out of the 6 who attended Senior H.S. completed it.

the workers and 50% of the renters had no schooling whatsoever. At the other end of the scale, while 17% of the landowners completed primary school or had even more education, only 2% of the workers completed primary school. The renter status shows its slight superiority with respect to the worker status with 12% having completed primary school as compared to 2% for the workers.

As a whole, of 22 respondents, a little less than half never attended school, about a fourth went only to the first grade and only 5% completed primary school. The 12 respondents who attended high school were all landowners. Only one in 220 attended a university.

f. Number of dependents: The Nordestinos have in general large families. The sample confirms this tendency.

Table 12. Family Size by Tenure Groups (in % of groups).

	Landowners (N-106)	Managers (N=8)	Renters (N=42)	Hired workers (N=65)	Total N=221
	%	%	%	%	%
No dependents	2	--	--	3	2
1 to 3 dependents	35	--	14	32	29
4 to 6 dependents	34	50	55	42	41
7 to 8 dependents	11	25	12	14	13
9 or more dependents	18	25	19	9	16
Total	100	100	100	100	100

g. Mobility and urban experience

Table 13. Geographical Mobility by Tenure Groups

	Landowners (N=106)	Managers (N=8)	Renters (N=42)	Hired workers (N=65)	Total N=221
	%	%	%	%	%
Lived only in one place	26	12	26	9	18
2 to 4	61	76	60	69	66
5 to 7	9	12	12	18	13
8 to 10	3	--	2	4	3
Total	99	100	100	100	100

Table 15 shows that a higher percentage of landowners and renters have lived only in one place. Hired workers show higher levels of mobility.

Table 14. Urban Experience by Tenure Groups

	Landowners (N=106)	Managers (N=8)	Renters (N=42)	Hired workers (N=65)	Total N=221
	%	%	%	%	%
Never lived in a city	70	88	86	86	78
Cities of Northeast	12	--	7	11	10
Capitals of Northeast	10	12	5	--	6
Rio de Janeiro, Sao Paulo or non-Northeast cities	7	--	2	3	5
No data	--	--	--	--	--
Total	99	100	100	100	99

This table shows that a very high percentage of the landless (around 86%) never lived in a city, while those who own land have had more urban experience. In combination with Table 15, this table indicates that the higher mobility of hired workers happens mainly within the rural areas.

h. Occupational roles

Besides working the land, some people in rural Brazil also have another occupation. This occupation may be closely related to agriculture or may be quite apart from it. The following table shows which are the most common broad occupational groups in the sample:

Table 15. Occupations of the Respondents

	f	%
Only agriculture	168	76
Occupation connected to agriculture	18	8
Occupation not connected to agriculture	11	5
Merchant	23	10.5
Government employee	1	0.5
Total	221	100

About 10% of the respondents in the sample complemented agriculture with some commercial occupation.

i. Facilities

Of the 221 respondents in the sample, 44 (20%) lived in neighborhoods in which there was electric power available and 177 (about 80%) in places without power. However, of the 44 who could use power, only 14 did have it in their homes. Nine of them were landowners, two renters and

sharecroppers, no managers and one hired worker.

j. Location

Because the city of Timbauba is located somewhat centrally in the municipio, the average distance from the respondents' homes to Timbauba was not very high: 97% lived less than 20 kilometers from Timbauba. Moreover, Timbauba is not the only center for population concentration in the municipio. This indicates that the subjects in the sample were not in general living in very isolated and remote places.

Also the municipio is well supplied with roads. The distance from the subjects' homes to the nearest road was less than 10 kilometers for all but two subjects. More than half of them lived less than one kilometer from the nearest road and more than 3/4 lived less than five kilometers.

The subjects' homes were not far from the nearest school either. The average home-to-school distance in the sample was 1.3 kilometers. Despite this relatively short distance, only 42 (19%) of the subjects talked frequently to the school teacher and 129 (58%) never talked to her.

2. Perceptions, values and aspirations

This section attempts to present the respondents' view of the world. Whenever possible the information will be presented in relation to the tenure groups. For simplicity's sake, a Question and Answer format will be employed. Questions will be grouped meaningfully in the following dimensions:

a. Perception of the environment

b. Values and aspirations

a. Perception of the environment

1) Question: What are the main difficulties or problems of this place?

For each respondent up to three "difficulties or problems" were recorded. This is the explanation for the large frequencies registered in each category.

Table 16. Main Difficulties Perceived by the Respondents in Their Locality (up to three things recorded for each respondent)

Difficulties	Number of Mentions	Percentage of Mentions	Ranking
No difficulties perceived	24	7	5
Everything is difficult	7	2	8
Human factors: (diseases, bad neighbors, bad patroes, illiteracy, etc.)	17	5	7
Natural factors: (lack of water, lack of wood for fuel, poor soil, bad years, drought, wind).	39	11	4
Economic factors: (low income, high cost of living, credit difficult, high taxes, poverty).	70	19	2
Agricultural factors: (shortage of land, work too heavy, lack of work, work with hoe, bad administration).	51	14	3
Labor relations factors: (sujeicao, to work for others, agrarian reform, not to be free to grow what one wants).	19	5	6
Facilities factors: (communication, transportation, roads, lack of recreation, lack of government assistance, of technical assistance, of health care, of tools and			

Table 16. (continued)	Number of Mentions	Percentage of Mentions	Ranking
machinery, of light and power, deficient houses, etc.).	136	37	1
Total	363	100	

The main local difficulties perceived are in the areas of facilities and economic conditions, with more than half of the number of mentions referring to those problems. Ecological and agricultural factors take second place.

The main local difficulties perceived are in the areas of facilities and economic conditions, with more than half of the number of mentions referring to these problems. Ecological and agricultural factors take second place.

2) Question: How can these problems be solved?

Table 17. Ways for Local Problem Solution (in %)

	Landowners (N=106)	Managers (N=8)	Renters (N=42)	Hired workers (N=65)	Total N=221
	%	%	%	%	%
They cannot be solved	17	25	12	12	15
By God's action	1	--	2	2	1
By action of the patroes or managers	14	12	29	25	20
By Government action	35	12	14	18	25
By the action of Leagues & Syndicates, or the union of the camponeses	1	--	5	5	3
By the action of municipio politicians	4	--	--	--	2

Table 17. (continued)

	Landowners	Managers	Renters	Hired Workers	Total
By subject's own action	6	12	--	2	4
Other ways	7	--	7	11	8
Does not know	16	38	29	26	22
Total	101	99	98	101	100

Table 17 indicates that the majority of the respondents expect the solution for their problems to come from the Government (25%) or from the patroes or managers (20%). Very little faith (4%) is put on the action that the individual himself, or his class association (3%) can exert. The lack of a clear idea of where the solutions are, which could indicate the presence of a fatalistic orientation, is demonstrated by the fact that 22% of the respondents did not know how the local problems could be solved.

3) Question: Belief regarding the forces of nature.

This question was presented in story form: The story required the subject to identify himself either with a person who demonstrates a man-dominates-nature belief system or with a person who demonstrates a nature-dominates-man belief system.

Table 18. Belief Regarding Forces of Nature (in %)

Tenure Group	Active, scientific	Passive, fatalistic	No Data	
	%	%		Total
Landowners (106)	38	59	3	100
Managers (8)	62	38	-	100
Renters (42)	38	50	12	100
Hired workers (65)	45	38	17	100

For some unknown reason the landowners appear to be the most inclined to accept fatalistically the action of natural forces, followed by the renters. This is contrary to expectations and inconsistent with the attitude toward innovativeness displayed by landowners.

b. Values and aspirations

4) Question: Would you like to leave this neighborhood or not?

Table 19. Willingness to leave neighborhood

Tenure Group	YES	NO
	%	%
Landowners (106)	24	76
Managers (8)	12	88
Renters (42)	33	67
Hired workers (65)	28	72
Total	97	303

Renters and hired workers seem somewhat more inclined to leave than landowners and managers.

5) Question: Why would you leave it? (Asked of those who responded they would like to leave).

Table 20. Reasons for Willingness to leave Neighborhood

Reasons	Frequency	Percentage
To improve work and life	24	42
Because of lack of own land or because of deficiencies of land	12	21
Difficulties of the community	12	21
Personal or family reasons	6	11
Other reasons	3	5
Total	57	100

In general, improvement of life, occupation and relation to land seem to act as a positive inducement for mobility. A negative inducement appears to be the difficulties of the community.

6) Question: What things do you like best in this place?

Table 21. Things Liked in the Neighborhood
(Up to three things recorded for each subject)

Things liked	Frequency	% of total number of responses
Nothing	5	1
Everything	20	5
Human factors: (patrao or manager, bodegueiro, the neighborhood, the friends, the family, etc.)	114	30
Natural factors: (nature, climate, landscape, water, land, fruits)	60	16
Agricultural factors: (to own land, agricultural work)	148	39
Facilities factors: (distance to town, good road, near schooling, radio, store, the house)	35	9
Other things	2	0.5
Total	384	

Agriculture itself and the natural setting of agriculture seem to be the things liked most by the people in the sample, including altogether more than 54% of the number of mentions. The human aspects of rural life take a second place with 30% of the mentions.

7) Question: Why would you not leave this place? (To those who responded they would like to stay).

Table 22. Reasons for Unwillingness to Leave Neighborhood

Reasons	Frequency	Percentage
Personal reasons (age, family)	12	7
Affectionate attachment to place	80	49
Situation here acceptable and anywhere else would be the same or worse	44	27
He dislikes moving	10	6
The patroes are good here	9	6
Does not find a satisfactory place	5	3
Other reasons	4	2
No response	1	
Total	165	100

The affectionate attachment to the place of long residence, characteristic of the traditional society, is shown by this table as well as the unfavorable attitude toward taking risks. These characteristics, however, may vary with the differential statuses of the rural people with respect to land.

8) Question: If you moved out of this place, where would you want to go? (Asked only of those who expressed willingness to leave the place).

Table 23. Places They Would Move To

	Frequency	Percentage	Total %
Within state, urban	14	27	67
rural	20	39	
Other Northeast state, urban	1	2	
rural	4	8	10
Southern states, urban	4	8	
rural	3	6	14
Other	1	2	2
No response or does not know	4	8	8
Total	51	100	101

The large majority of the respondents who would like to leave their present neighborhood would not move out of the state of Pernambuco, and more would like to move to another rural neighborhood than to a city. Of the few who would consider moving out of the state of Pernambuco, slightly more would prefer to go all the way to Southern states (Rio de Janeiro, Sao Paulo, etc.).

9) Question: What are the things you would like to have in the future? What is missing for you to be happy?

Table 24. Desires for the Future (Up to 3 things were recorded for each respondent).

Things	Landowners		Managers		Renters		Hired workers		Total	
	F	%	F	%	F	%	F	%	F	%
Expects nothing from life	4	2	-	-	-	-	-	-	4	1
Human factors: (health, youth, rest, stability and education for the children, to get married, spiritual peace, etc.)	61	35	5	33	22	34	25	24	113	32
Economic factors: (money, earn more, own house, land, cattle)	85	49	2	13	30	46	54	51	171	48
Agricultural factors: (to have work, to be able to have a rocado, to have animals, to have a good year, etc.)	11	6	5	33	9	14	12	11	37	10
Labor relations factors	4	2	2	13	3	5	13	12	22	6
Facilities factors	8	5	1	7	1	2	2	2	12	3
Total	173		15		65		106		359	

Desires for the future seem to turn around financial advantage for about half of the landowners, renters and hired workers of this sample.

As a whole, human factors come second among the things desired. However, they are not so important to the hired workers, while the combination "agricultural factors" and "labor relations factors" are more important to them than the rest. In other words, the only noteworthy differences are between hired workers and everyone else and these are not great.

10) Question: What is for you the most important thing in life?

Table 25. Most Important Thing in Life (Only one item allowed)

Things mentioned	Landowners (N=106)	Managers (N=8)	Renters (N=42)	Hired workers (N=65)	Total N=221
	%	%	%	%	%
Nothing	-	-	5	-	1
Everything	-	-	2	3	1
Moral virtues (to live decently, not to kill, not to steal; sincerity, honesty, faith, to be jovial and gay, to be thrifty)	12	12.5	2	3	8
Social and familial virtues	41	75	29	29	36
Intellectual qualities	11	-	2	6	8
Material goods	7	12.5	7	18	10
Welfare and security	23	-	40	28	27
Freedom	2	-	-	2	1
Other	3	-	10	2	4
No data	2	-	2	9	4
Total	101	100	99	100	100

This is about as normal a picture of an agricultural society's value system as one could expect. In general, social and familial virtues are extolled by more than a third of all the subjects in the sample, followed by welfare and security.

Differences in the relative importance assigned by the different tenure groups are as follows:

a) Landowners: Social and familial virtues are first (41%) and welfare and security are far second (23%). Moral virtues (12%) and intellectual qualities (11%) are of little importance for this group.

b) Hired workers: Social and familial virtues (29%) and welfare and security (28%) are equally important. Material goods are important too (18%).

c) Renters: Welfare and security are far more important (40%) than social and family virtues (29%).

The low frequency of mention of "freedom" as the most important thing is suggestive: either the people in the sample perceive themselves as free or assign freedom a relatively secondary place in comparison to security and social peace.

11) Question: Are you satisfied with agriculture or would you leave it if you could?

Table 26. Willingness to Leave Agriculture

	Landowners (N=106) %	Managers (N=8) %	Renters (N=42) %	Hired workers (N=65) %	Total (N=221) %
Does not wish to leave	62	75	71	48	60
Wishes to leave under certain conditions	8	12	2	3	5
Wishes to leave unconditionally	30	12	24	42	32
Does not know	--	--	2	8	3
Total	100	99	99	101	100

As a whole, 60% of the Timbauba farmers included in this sample did not want to leave agriculture. Managers and renters are the least disposed to leave. Hired workers, as expected are the least attached to the land: 45% of them wished to leave agriculture, as compared to 38% of the landowners, 26% of the renters and 25% of the managers.

12) Question: Why would you leave agriculture?

Table 27. Reasons for Leaving Agriculture

Reasons	Frequency	Percentage
Difficulties and hardships of agricultural work; to live a more restful life	24	28
Personal reasons (age, vocation, family, etc.)	14	16
To get rid of sujeicao and to work for oneself	6	7
Economic reasons, economic improvement	32	37
Other	1	1
Does not know	10	11
Total	87	100

Desire to improve one's own situation is the predominant positive reason for the willingness to leave agriculture. About 44% of the sample said that they would leave for economic improvement or to get rid of servitude to patroes and work for themselves.

A negative reason for desiring to leave agriculture are the difficulties and hardships inherent in farming in the Northeast. About

28% would like to have a more restful occupation.

13) Question: Why would you not leave agriculture?

Table 28. Reasons for Unwillingness to Leave Agriculture

Reasons	Frequency	Percentage
Likes agriculture	52	36
Knows nothing else to do; can't read	47	33
Personal reasons (age, family)	15	10
Agriculture is economically satisfactory	15	10
Other	4	2
Does not know	10	7
Total	143	98

Two main reasons account for almost 70% of the negative dispositions to leaving agriculture: a positive attraction to this way of life and the inability to do anything else but agricultural work.

14) Question: Which occupation would you choose if you left agriculture?

Table 29. Alternative Professions Preferred

Type of profession	Percentage
Would not leave agriculture	13
Activity related to agriculture	11
Merchant	40
Employee (Government or private)	3
Factory worker	4
Industrialist	2
Craftsman (carpenter, blacksmith, bricklayer, mechanic, barber)	8
Driver	6
Any occupation	6
Other	6
No response	1
Does not know	5
Total	100

Forty percent of the subjects in the sample seem to be attracted by the occupation of merchant.[1]

[1] This is quite natural inasmuch as the non-agricultural occupation most familiar to the farmers is that of the country-store owner. The farmers, in their frequent visits to the store, have ample opportunity to observe that the merchant's family is better fed, better clothed and better educated than their own families. At the same time they perceive that -- provided one has the business skill necessary -- the job of the merchant is much more comfortable and light than that of the toiler of the soil.

15) Question: Would you move far away if the government offered you land? (Asked only to landless workers)

Table 30. Willingness to Move for Land

	Managers	Renters & Sharecroppers	Hired Workers
	%	%	%
Would not go	50	33	37
Would go	38	64	55
Does not know	12	2	8
Total	100	99	101

The data indicate that more than half of the subjects in the sample would move to a distant place for land. It is interesting to notice that a higher percentage of renters and sharecroppers, than hired workers, would go far to obtain land (64% against 55%).

16) Question: What profession would you like your sons to have?

Table 31. Occupation Desired for Sons

Profession	Frequency	Percentage
Agriculture	25	16
Employee (Government or private)	19	11
Industry worker	9	6
Craftsman (shoemaker, blacksmith, carpenter, painter, bricklayer, etc.	9	6
Driver or mechanic	17	11
Liberal profession (priest, professor, doctor, dentist, lawyer)	23	15
Merchant, businessman	32	20
Wishes them to study but does not have a preferred profession	11	7
Other	14	9
Total	159[1]	101

Only 16% of the respondents would like their sons to be farmers. It is apparent that while the respondents themselves do not desire to leave agriculture, they do not consider it a desirable occupation for the next generation.

[1] The rest of the 221 respondents did not have sons or did not know what to answer.

17) Question: What profession would you like your daughters to have?

Table 30. Occupation Desired for Daughters

Profession	Frequency	Percentage
Agriculture	5	3
Housewife	13	9
Dressmaker	26	18
Industry worker	71	49
Employee (Government, store or office)	4	3
Liberal profession	13	9
Other	7	5
Wishes them to study but does not have a preferred profession	7	5
Total	146[1]	101

A high number of mentions of industrial work as a choice for the daughters' profession may be somewhat easy to explain in Timbauba, but may not be a general tendency in other underdeveloped areas. Timbauba has a relatively advanced degree of industrialization (textiles, shoes, sugar). Thus, it is not a totally new experience for a Timbauba farmer that women work in industries. Also, they know that industries in Timbauba pay higher salaries than any kind of farm employment for the women.

[1] The rest of the respondents did not have daughters or did not know what to answer.

18) Question: What kind of farm do you think is better? (Question presented in story form).

Table 33. Type of Farm Preferred

Type of farm	Landowners (N=106)	Managers (N=8)	Renters (N=42)	Hired workers (N=45)	Total N=221
	%	%	%	%	%
Collective farms	12	12	17	20	15
Family farms	53	38	62	52	54
Plantation	32	50	19	22	27
Does not know	8	--	2	6	4
Total	105	100	100	100	100

Family farms for the organization of agriculture seem to be preferred by the majority in the sample, followed by the plantation or engenho type of structure. To interpret this finding in the proper perspective, however, it should be known that Northeastern farmers are not familiar with collective farms but only with the other two types.

19) Question: Attitude toward innovation (Identification with a person with innovative characteristics or with another with conservative or traditional characteristics. Question presented in story form).

Table 34. Attitude Toward Innovation

	Landowners (N=106)	Managers (N=8)	Renters (N=42)	Hired Workers (N=65)	Total N=221
	%	%	%	%	%
Favorable	89	88	67	61	76
Unfavorable	10	12	21	31	18
Does not know	1	--	12	8	5
Total	100	100	100	100	99

This table shows a consistent increase in favorable attitude toward innovation when moving from hired workers up to landowners.

20) Question: Would you borrow money in order to earn more?

Table 35. Attitude Toward Borrowing

	Landowners (N-106)	Managers (N=8)	Renters (N=42)	Hired Workers (N=65)	Total N=221
	%	%	%	%	%
Yes	73	100	78	69	74
No	22	--	17	22	20
It depends	5	--	5	9	6
Total	100	100	100	100	100

The large majority of the sample (74%) have a favorable attitude toward credit. It is regrettable that they were not asked whether they

have used or are using credit currently.

Managers unanimously express a favorable attitude toward the use of credit.

3. Social participation

a. Religious membership

Almost all respondents in the sample were Catholic (199 out of 221). Church attendance, however, was not very high.

Table 36. Church Attendance

	F	%
Less than once a month	99	47
Once a month	47	22
Twice a month	28	13
Three times a month	13	6
Four times a month	18	9
More than 4 times a month	4	2
Total	209[1]	99

[1]Twelve of the 221 did not respond.

This low attendance may be due to the absence of priests in the rural churches, a fact which forces the farmers to go all the way to Timbauba to attend Mass. Few farmers in the sample talk to the priest: 88% of them have no or little communication with the church's representative.

Table 37. Frequency of Contact with Priest

	F	%
Does not talk to the priest	90	41
Talks with him very seldom	104	47
Talks with him frequently	27	12
Total	221	100

The lack of frequent direct contact, nevertheless, does not prevent the people from being deeply religious and from expressing a strong faith in the priest as a source of information. When asked about this, 86 said they believe everything the priest says, 45 said they believe only some things he says, and only two said they believe nothing the priest says.

b. Membership in class associations

As far as membership in class associations is concerned, a large majority (161 out of 221) had none. Only 41 were members of the Rural Syndicate, sponsored by the Catholic Church, and 11 were members of the Peasant Leagues. Only 8 of the landowners belonged to the Landlord Association, the Rural Association or the Association of Sugarcane Growers. Although few belonged to class associations, there seems to be a generally favorable perception of those societies. When asked "Do you think it necessary for a farmer to be a member of a class association," 128 answered yes and only 21 said no. (The rest 66, responded "I don't know," probably due in part to the newness of these associations

in the Northeast). Another reason for non-membership could be fear. Asked whether it is dangerous to belong to a class association in the area, 46 said yest, 98 said no, and 70 did not know.

c. Membership in recreation clubs

Apart from class associations there are very few societies a farmer can belong to in the rural Northeast. An exception are the recreation clubs, which consist of little more than soccer teams and their fans. The clubs also organize dances and celebrations at carnival time, local saint's day and important holidays. Only 21 respondents were members of clubs.

d. Political affiliation

Only 31 out of 221 respondents were members of political parties. It must be remembered that in Brazil the illiterates do not have the right to vote. Therefore the political parties are not interested in wooing the farmers and the farmers are not interested in politics.

4. Knowledge horizon

This dimension was included here to represent the degree of contact or isolation with respect to what is ordinarily called "modern civilization." The following questions were presented to the respondents, chosen among the matters that a member of a developed country ought to know. The percentages of respondents who knew the answers to the questions are also given in Table 38.

Table 38. Responses to Instrumental Knowledge Questions

Economic knowledge	% who knew the answer
Value of land	69
Main Brazilian export	6
What is inflation	7
What is a dollar	35
Bank interest	39
What is a cooperative	48
Political knowledge	
Brazilian plebiscite	32
Democracy	20
Women's vote	85
President who resigned	44
President who committed suicide	63
Current President	52
Agrarian knowledge	
Agrarian reform	25
Who is Father Melo	9
Can government take land	47
Who arbitrates land conflicts	59
Registering property	45
Deputy of the Peasant Leagues	27
Agricultural knowledge	
Uses fertilizer	18
Believe in *rezas* (prayer to cure plant or animal illness)	56 (do not believe)
Uses insecticide	38
Buys seed	61
Rotates crops	54
Lets land rest	54

The average number of questions answered correctly by respondents in each of the four tenure groups in the sample was the following:

Landowners	3.50
Managers	3.25
Renters	2.25
Hired workers	1.50

These averages show clearly the unequal distribution of knowledge and information among the different social strata of the rural Northeast. This is consistent with the amount of literacy and schooling in the different tenure groups.

5. Communication behavior

The description of communication behavior will cover data on sources, messages, media and the receivers, in the following manner:

a. A general table of instrumental use will indicate how frequently six personal and ten impersonal media are used for instrumental purposes.

b. An analysis will be made of the types of sources most frequently used by the rural population to obtain information about matters relevant to them.

c. Some data will be given about the credibility of the media in the Northeast.

d. The relative contribution of several media to the dissemination of instrumental information will be described.

e. A series of data on the role of the neighborhood's best informed person will be reported.

g. Finally, the channels through which the farmers say they would communicate their needs to the authorities will be discussed.

a. Instrumental use of communication media

In Table 39, 16 media are compared in terms of instrumental use:

Table 39. Instrumental Use of Media[1] (in %)

Medium	N	No instrumental use	Low instrumental use	Medium instrumental use	High instrumental use
Radio	119	39	10	20	31
Newspapers	221	20	1	14	14
Magazines	220	82	5	8	5
Television	117	92	3	3	2
Books	118	95	1	4	1
Folhetos	221	100	1	--	-
Movies	118	98	1	1	-
Bulletins	221	95	1	4	1
Loudspeakers	114	89	4	7	1
Almanacs	118	69	-	31	-
Merchants	221	39	-	6	55
Leaders	119	83	1	4	13
Travel	102	78	4	11	7
Fair	119	17	-	67	20
Visits	197	76	8	10	6
Casual meetings	208	39	-	36	24

[1] The category "No instrumental use" includes both the cases in which the medium is not used at all by the respondent and the cases in which the medium is used but only for consummatory purposes. N refers to the total number of respondents answering the question about the use of each medium.

This table shows that a large percentage of people in the sample either do not use these communication media or use them with no instrumental purpose. The least instrumental use is the Folhetos, Movies, Television and Books. This result is consistent with the usual content of these media in the Brazilian Northeast. Radio, Merchants, and Casual Meetings have a high instrumental use. Fair is also important, as well as Newspapers and Class Association leaders.

b. Types of sources of information

In any description of the communication process in a social system, it is useful to know to whom the people go for information, advice, orientation, and news. While some people use the same source for most of their information, several studies have shown that most people use different sources of information for different matters. Katz and Lazarsfeld (25) found that opinion leaders in the area of movies, for instance, were not the same opinion leaders in the area of purchases. To what extent do the farmers of Timbauba tend to concentrate on one source or on a variety of sources? A list of 20 matters of rural interest was prepared, covering the areas of economics, politics, agrarian relations, religion, education, agriculture, health, recreation and news of the world. The respondents were asked which sources of information they consulted for orientation and advice in regard to each one of those 20 matters. They were asked to indicate which sources within the neighborhood and which outside sources they consulted.

Inside Neighborhood sources

While the data are not presented here, there is much evidence of the dominant importance of friends, relatives, neighbors, co-workers and other farmers in the flow of information within the neighborhood. These personal, primary group sources, occupy the first position as inside sources of information in 14 of the 20 matters of rural interest. They perform a secondary role in the following matters:

Prices of merchandise (to buy)
Employment opportunities
Land conflicts
New federal and state laws
Radiophonic schools
Health problems

In five of these matters, friends, neighbors, relatives, co-workers and other farmers occupy the second place in the frequency of mention as inside neighborhood sources.

The still very important role of the patrao or the manager in a rural structure dominated by the large property owner is evident in the data. Patrao or managers are mentioned as inside neighborhood information sources occupying:

the first place in:	Employment opportunities Land conflicts New federal and state laws Health problems
the second place in:	Political matters Purchase, sale or renting of land Taxes Prices of machinery and tools Wages and workers' rights Inheritance, heirs, problems Agriculture Recreation News of the world
the third place in:	Prices of animals Prices and markets to sell agricultural products Prices of merchandise (to buy) Membership in class associations Religious or church matters Radiophonic school Opportunities for instruction

In no case was patrao or manager not mentioned by at least one subject, and in several instances it was mentioned by a large number, such

as in Health Problems (35 mentioned out of 39 inside neighborhod). The important role of the patrao defines a paternalistic system of relationships between the landowners and their subjects.[1]

The role of the merchant, store owner or businessman in the flow of information is also very important according to the data presented here. Merchants occupy the first place as inside neighborhood information source in Prices of Merchandise (to buy), the second place in Prices and Markets to Sell Agricultural Products and the third place in the following matters:

Purchase, Sale or Renting of Land
Taxes
Prices of Machinery and Tools
New federal and state laws
Health problems
News of the world

A less important role is occupied by merchants in Prices of Animals and Political Matters. If it is taken into consideration that a high rate of personal contact is made at the country stores, the indirect role of the merchant in all the matters in which friends, neighbors, relatives and other farmers were mentioned as first or second important sources, acquires even more relevance than that which is reflected by the present data. The following table, showing the places where the subjects in this sample said they meet their friends, relatives and acquaintances most frequently, gives evidence of the important indirect role of the merchant in the exchange of information in rural Northeast:

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[1]The author of this thesis had a personal opportunity to witness a case along this line. At one of the engenhos visited, the landowner was being interviewed when the small son of a laborer was brought to him with a broken arm. The landlord interrupted the interview to drive the little boy to the hospital in Timbauba.

Table 40. Most Frequent Places for Meeting Friends and Acquaintances (Up to three places mentioned were recorded for each subject).

	F
Fair at Timbauba and other towns	123
Roads and trails ("on the way to the fair, on the way to work on the fields", etc.	66
In the field, during work	65
Various places in town such as bars, cafes, restrurants, market	60 (includes 3 in Recife)
Bank, public square, cocheira, etc. (This category may overlap with fair, as the fair takes place in the town)	38
Country stores	38
Usina, engenho or property	12
Church	4
Party or meeting	4
Barber	2
Neighborhood	1
"In the river when I go to take a bath"	1

Outside Neighborhood Information Sources

Here again, friends, relatives and other farmers have a fundamental role as sources of information. They take first place in:

Purchase, sale and renting of land
Employment opportunities
Instruction opportunities
Recreation opportunities

They occupy second place in:

Taxes
Prices and markets to sell agricultural products
Prices of merchandise (to buy)
Wages, rights of the workers
Political matters
News of the world

And third place in:

Prices of machinery and tools
Prices of animals
Membership in class association
New federal and state laws
Religious and church matters
inheritance, heirs' problems

Friends, relatives and other farmers are mentioned only three times as an outside source of information in Land Conflicts. The three matters in which they are not mentioned as sources are Radio-schools, Agriculture and Health Matters. The low mention of friends and relatives as an outside source of agricultural information contrasts with the high importance attributed to them as inside source of agricultural information. This seems to indicate that whenever a farmer needs agricultural advice, he obtains it locally from friends but if the problem warrants outside neighborhood information or advice, then the technical agencies, such as the agronomists and veterinarians of the government agencies, are consulted. In effect these agencies were mentioned 36 times as outside sources of information for Agriculture, occupying the first place in that role, with patrao and other sources only mentioned twice.

An examination of the types of sources of information most mentioned for outside the neighborhood forces us to conclude that, with the exception of friends, relatives and other farmers, there is no one important source for all matters, and that for each matter there are

some specialized sources of information. For economic matters the merchants take the leading role, as can be expected; for health problems the health agencies are at the top and a similar pattern emerges for agriculture, religion, etc. Radio occupied the first place with 42 mentions for News of the World. This confirms the relatively high penetration of this medium in the rural Northeast.[1]

c. Media preference and credibility

In order to ascertain the general attitude of the sample toward the various information media, a series of drawings were shown to the respondents, with the question: "Here on this table you see drawings representing the many ways you could use to receive news or knowledge. Please indicate which of these you like and trust best."

Table 41. Media Preference

	% (N=147)
Radio	37
Priest	16
Best informed person in place	15
Patrao	11
Newspapers	9
Fairs	7
Class leaders	6
Total	101

[1] Because of the recency of its establishment as a recognized social institution in rural Northeast, the Syndicate does not show a very significant role in the flow of information at this stage. It is believed, however, that it will eventually replace the role of the patrao and manager

The way the question was presented seems to have produced an evaluatory response not necessarily connected with frequency of use. The dominant position of the priest in this evaluatory response, for instance, contrasts with the face that only 27 out of 221 persons reported having frequent contact with him.[1]

Credibility of 21 media was ascertained by asking the general question, "Do you believe everything you receive in Channel X, or only some of the things you receive, or nothing?". People were distributed within the categories Low, Medium and High Credibility.

The following Media received High Credibility mentions:

	%
Priest	65
Government services	56
Teacher	51
Books	50
Meetings	49
Class leaders	49

Folhetos, Movies and Violeiros have low credibility, and this is

---

manager as an intermediary between the political centers of decision and the individual farmers, especially if an agrarian reform program is established in the area.

[1] If it is remembered that more often than not the patrao is the best informed person in the locality, it would be realistic to move patrao to the second place, before the priest, in this ranking of media preference.
An interesting methodological hint came out of this effort to measure preference. When the respondents were asked to rank the media they dislike and distrust most, a great majority of them would refuse to make those negative choices. This reaction may be connected to cultural habits of respect to superiors or fear of sanctions.

consistent with the fictional and entertainment character of these media.[1]

At the Medium Credibility level, Newspapers, Radio, Bus and Truck Drivers, Merchants, Almanacs, Visitors from Outside, and TV, were mentioned more frequently. Patroes and managers, as well as Loudspeakers also have a modest degree of credibility.

It remains for more detailed studies to find out what type of content and what type of sources in the media are accepted and trusted by the rural people. This information, together with the general credibility of the media is useful for policy decisions in regard to public information programs.

d. Contribution of media to the diffusion of instrumental information

The data gathered in the present study show that media vary in their contribution to the diffusion of specific types of information. This, of course, is no new discovery, but it points to the need to devote more attention to ascertaining which types of information are more sought by the rural public in the different media. The latter knowledge may be extremely useful for public information programs.

The media contributing more to the diffusion of the six types of instrumental information in the Timbauba sample are the following:[2]

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[1] The low credibility of Folhetos and Violeiros should be taken in account by some educational agencies of the government which are attempting to use those popular media to disseminate instrumental information, such as protection against diseases and new agricultural practices.

[2] These figures are based on the number reporting that they use each medium.

		%
1) For Political Information	a) Newspapers	16
	b) Radio	14
	c) Loudspeakers	14
	d) Magazines	7
2) For Economic Information	a) Merchants	89
	b) Fair	74
	c) Patrao or manager	72
	d) Travel	52
3) For Information on Agrarian Class Matters	a) Class leaders	89
	b) Radio	11
	c) Loudspeakers	8
	d) Patrao or manager	7
4) For Agricultural Information	a) Almanacs	80
	b) Patrao or manager	72
	c) Bulletins	69
	d) Visits	49
5) For General News	a) Newspaper	60
	b) Radio	53
	c) Magazines	52
	d) Television	37
6) For Health Information	a) Patrao or manager	7
	b) Almanacs	5

Media for News and Media for Technological Information

The following two tables will show the differential role of some media for conveying news of the world or information about new agricultural practices.

The respondents were asked the question: "If something very important happens far from here (Example: if the Government approves the agrarian reform law or Brazil enters into a war with another country) in which way would this news reach you? How would you find out about it?"

The responses were as follows:

Table 42. How News From Afar is Received

	% (N=210)
Mass media	54
Friends, neighbors, relatives, co-workers	30
Patrao or manager	7
Letter or telegram	2
Syndicate or League leader	2
Merchants	1
People from outside	1
Politicians	1
Would not get any	1
Total	99

On the other hand, to the question: "How did you get to know about the use of insecticide? Who recommend its use to you?", the responses were:

Table 43. Sources of Information about Insecticides

	% (N=221)
Does not use insecticides	59
Friends, neighbors, relatives other farmers	14
Agronomo, Fomento, Secretaria de Agricultura	12
Patrao or manager	8
Mass media	3
Commercial agents	2
Other	0.5
Total	98.5

While mass media are important for news diffusion, their role in the diffusion of technological information is almost insignificant in Timbauba. The primary group members, however, are important for both purposes.

f. The Role of the Best Informed Person (BIP)

Most studies of communication in rural society indicate the existence of persons in the communities, who, because of natural intelligence, schooling or possession of communication receiving devices, are better informed than their neighbors. Daniel Lerner's store owner (27) is one example. Stycos (46) believed that the better informed person could be either an opinion leader or an information controller, depending upon his social status. In the small Greek village of Kalos where Stycos obtained data, opinion leaders were the priest and the teacher (high status and education) and the information controller was the tavern-owner (near illiterate but owner of a radio set). Stycos hypothesized that information would flow in Kalos according to the following diagram:

Newspapers — Radio

Opinion leaders — Opinion controllers

Opinion and Information Carriers

Communication Terminants

Diagram 2. Information Flow in Kalos

In Stycos' minute sample, the opinion and information carrier was an illiterate well-to-do farmer dependent for news upon the priest and the teacher, while communication terminant was an illiterate, poor, orphaned young shepherd, totally isolated from mass media. The expected role of the information carrier was not confirmed by the facts: the shepherd obtained information directly from the opinion leaders.

An attempt was made in the present study to spot the best informed persons as perceived by the subjects in the sample. Questions such as

1) Who is the best informed person?

2) How does he get his information?

3) How does he communicate the information he gets?

4) How credible is he?

were asked, with the following results:

1) Who is the best informed person?

Table 44. Best Informed Person (BIP)

	% (N=221)
The patrao, a landowners, the manager	57
The local politician[1]	12
The merchant or store owner	8
A hired worker	4
The teacher	2
A renter or sharecropper	2
An authority	1
The syndicate leader	1
The priest	0.5
There is nobody best informed	1
Does not know	12
Total	100.5

[1]The local politician in general is also a patrao or landowner.

2) How does the BIP get his information?

Table 45. Media for BIP

	% (N=220)
Mass media	47
Travel outside community	16
Through persons	9
BIP lives in town	5
Other	5
Does not know	5
Does not apply[1]	
Total	101

3) How does the BIP communicate?

Table 46. How BIP Communicates

	% (N=192)
Personal conversation	67
Meetings	2
Writing	0
Other	2
Does not communicate	13
Does not apply	16
Total	100

[1]These are the ones who replied "there is nobody best informed" or "don't know" to the previous question.

The following conclusions may be drawn about the BIP:

1. He is more likely to be a patrao or occasionally a political leader, who is himself most likely a patrao or a merchant.

2. They are thought to maintain their high degree of information through a high contact with the mass media, through frequent travel and personal contacts.

3. Although a high proportion of these persons do not seem to make a point of communicating to others what they know, when they do, they are thought to use direct personal contact.

g. How people communicate their needs to the government

Communication should be a two-way process and therefore the "feedback" problem in the developing countries should be given attention. The question presented to the respondents in this study was the following:

> "The government needs to know the ideas and the needs of the people in order to make laws that benefit the people. Now, in what way do you make the government or the authorities know what you think or what you need?"

The responses showed that the question was misunderstood: many of the respondents reported about how they would communicate their ideas or how the government should go about knowing them, not how they actually communicate today with the authorities. Landowners seem to prefer to contact the authorities on their own, while the other groups think the government should take the initiative and search for feedback information. Hired workers mentioned more frequently the syndicate or farmers' getting together, which points to their individual powerlessness in relation to the authorities. The data indicate that at least the municipio

authorities are not too far from the reach of the rural people. On the other hand, the low ranking of using the electoral method for feedback could be explained by the fact that illiterates do not vote and at the same time most farmers are illiterate.

CHAPTER VI

THE RESULTS

A. THE TESTING OF THE HYPOTHESES

In Chapter IV, the theoretical hypotheses evolved from a conceptual frame of reference were listed. This procedure followed to test them will be reported in the present chapter, involving these steps:

1. Review of the preparation of the data
2. Listing the operational hypotheses
3. Statistical methods used for the analysis
4. Description of findings

The final chapter will provide an interpretation of the findings.

1. Preparation of the data

It was explained in Chapter IV that "principal component" factor analysis and Varimax rotation were used to ascertain the internal consistency of the items composing each variable. In order to give more weight in the analysis to the items which contributed better to its respective variable, the following technique was applied:

"Factor scores" were computed, for each factor, by computing the weighted sum of the variables which loaded "significantly" on the factor. The weights were the entries of the factor matrix. These, of course, are not true factor scores, for true factor scores involve, for a given factor, all the variables, and the weights are not the entries in the factor matrix but rather the entries in its pseudo-inverse. It can then be expected that some factors will correlate with one another. That is, if I_i the person's index score; w_k the standardized weight of the kth item (X_k) in the factor, and X_{ki} is the ith person's score on item X_k,

then the formula for computing the i^{th} person's factor score is:

$$I_i = w_1 X_{1_i} + w_2 X_{2_i} + \ldots\ldots + w_k X_{k_i}$$

For, say, a five item factor:

$$I_i = w_1 X_{1_i} + w_2 K_{2_i} + w_3 K_{3_i} + w_4 X_{4_i} + w_5 X_{5_i}$$

Now, if w_1 and w_2, let us say, are quite high while w_3, w_4 and w_5 are lower but much more than zero, and especially if X_3, X_4 and X_5 contribute greatly to another factor, a decision would be made to include only w_1 and w_2 in the factor score, treating w_3, w_4 and w_5, as if they all had values of zero. Thus as actually indexed, the factor would have a correlation less than one with the more refined weighting system, and would not be orthogonal to the other factors which would be extracted from the matrix.

In order to express the scores in terms of units of standard deviation, they were also normalized. This and the previous operation were performed with the help of a computer.

For the purpose of helping recall, a summary of the refined variables will be presented here.

1) The Dependent Variable: Intensity of Search for Instrumental Information

This variable was constructed by simple addition of the measurements of instrumental use reported for 16 communication media.

2) Range of Possible Decision-Making

The original variable was replaced by the only (unrotated) factor produced by factor analysis, with the following factor loadings:

Literacy	.68
Schooling	.79
Land controlled	.77
Top cash had	.66
Occupation	.30
Workers supervised	.86

3) Dissatisfaction with the Present Situation

Factor analysis demonstrated that this variable was not unidimensional but composed of three factors with the following main loadings:

Factor I		Factor II		Factor III	
Need land	.43	Need productivity	.77	Willingness to leave residenct	.69
Need animals	.74	Need knowledge	.62		
Need tools	.71			Willineness to leave agriculture	.83
Need income	.53				

It was decided to replace the original variable with three new variables, which will be called respectively "Dissatisfaction with Production Factors," "Dissatisfaction with Productivity and Knowledge" and "dissatisfaction with Occupation and Residence." These new variables will be treated in the analysis as so many independent variables.

4) Self-evaluation

Two factors were shown to compose this variable. The loadings for the two unrotated factors were:

	I	II
Citizen	.67	-.42
Friend	.61	-.53
Agriculturalist	.38	.05
Freedom of decision	.53	.55
Ability to find happiness	.59	.60
Prestige	.72	.02
Popularity	.65	-.31
Own life	.56	.30

It was decided to replace the original variable with the first unrotated factor, inasmuch as it correlates with all the items to an acceptable degree and accounts for 28% of the variance. The second factor was ignored.

5) Perception of Possibilities for Situation Improvement

Here again the original variable proved to include more than one dimension, as shown by the following rotated factors obtained:

Factor I					
Possibilities for more land	.46	Problems solved	.68	Possibilities for more land	.59
Possibilities for more animals	.65	More knowledge	.43		
Possibilities for more income	.69				
Possibilities for more credit	.50				
Possibilities for more knowledge	.30				

Factor I accounted for 21% of the variance (as against 14% for each of the other two) and involved six of the nine original items. Because of these facts it was substituted for the original variable. Its meaning concentrates on the person's perception of possibilities for improving his situation in relation to the factors of production.

6) Activity for Situation Improvement

The original variable was replaced by the first and only unrotated factor, which was well correlated to all the items:

Doing something to obtain (more) land	.66
Doing something to obtain (more) animals	.63
Doing something to obtain (more) tools	.61
Doing something to obtain (more) income	.55
Doing something to obtain (more) credit	.58

In summary, the following is the picture of the replacement of original variables by the most suitable components:

Original variable	New Variable	Symbols
1) Intensity of Search for Information	Unchanged	X_8
2) Range of Possible Decision	Only unrotated factor	X_1
3) Dissatisfaction with the Present Situation		
3.1) Diss. with Production Factors:	Rotated factor I	X_2
3.2) Diss. with Productivity and Knowledge:	Rotated factor II	X_3
3.3) Diss. with Occupation and Residence:	Rotated factor III	X_4
4) Self-evaluation	First unrotated factor	X_7
5) Perception of Possibilities for Situation Improvement	First rotated factor	X_5
6) Activity for Situation Improvement	Only unrotated factor	X_6

The variables 3.1, 3.2 and 3.3 become from now on separate independent variables, as indicated above in the column called Symbols.

2. List of the operational hypotheses

The following relationships among the variables were tested:

1) The variable Intensity of Search for Instrumental Information is positively correlated with the variable Range of Possible Decision-making.
2) The variable Intensity of Search for Instrumental Information is positively correlated with the variable Dissatisfaction with Production Factors.
3) The Intensity of Search for Instrumental Information is positively correlated with the Dissatisfaction with Land Productivity and Knowledge.
4) The Intensity of Search for Instrumental Information is positively correlated with the Dissatisfaction with Occupation and Residence.
5) The Intensity of Search for Instrumental Information is positively correlated with the variable Self-evaluation.
6) The Intensity of Search for Instrumental Information is positively correlated with the variable Perception of Possibilities for Improvement of the Situation.
7) The Intensity of Search for Instrumental Information is positively correlated with the variable Activity for Situation Improvement.

8) There is a positive relationship between the Range of Possible Decision-making and the Activity for Situation Improvement.

9) There is a positive correlation among all three of the variables-Self-evaluation, Perception of Possibilities for Situation Improvement and Activity for Situation Improvement.

10) It is expected that no relationship will be found between the Range of Possible Decision-making and the three dimensions of Dissatisfaction.

3. Statistical methods used for the analysis

Two kinds of correlation tests were run among the variables in order to test the hypothesized relationships. A computer CDC 1604 was used for these tests:

a. First-order correlations were run among all the variables, also obtaining the significance of the correlations found.

b. Multiple correlation equations were obtained combining, in the first three, each of the Dissatisfaction variables with all the other independent variables, and in the fourth, combining all the available variables.

4. Description of the findings

We will present first the results of the first-order correlation tests and second the results of the multiple correlation equations.

a. Intercorrelations among the variables

The following matrix presents the correlation coefficients found to exist between each pair of the variables listed below:

1) Range of Possible Decision-making (RPDM)

2) Dissatisfaction with Production Factors (DPF)

3) Dissatisfaction with Productivity and Knowledge (DPK)

4) Dissatisfaction with Occupation and Residence (DOR)

5) Perception of Possibilities for Situation Improvement (PPSI)

6) Activity for Situation Improvement (ASI)

7) Self-evaluation (SE)

8) Intensity of Search for Instrumental Information (ISII) (Dependent Variable)

Matrix 6. Intercorrelations Among all the Variables

		RPDM	DPF	DPK	DOR	PPSI	ASI	SE	ISII
		1	2	3	4	5	6	7	8
RPDM	1	--	-.09	.23	-.11	.13	.32	.20	.54
DPF	2		--	.21	-.46	-.30	-.14	-.03	.06
DPK	3			--	-.14	.02	.10	.02	.24
DOR	4				--	+.22	+.16	-.16	-.05
PPSI	5					--	.30	.16	.11
ASI	6						--	.20	.24
SE	7							--	.21
ISII	8								--

Significance of the correlations

Based on the assumption of normal distribution of the variables, the following is the significance matrix for the correlations listed in the above correlation matrix. The number in each cell indicates the exact probability of achieving that high correlation by chance, one tail test.

EXPECTED	OBTAINED
Hypothesis 6 ISII positively correlated with Perception of Possibilities for Situation Improvement	r = .11, not significant Hypothesis not confirmed
Hypothesis 7 ISII positively correlated with Activity for Situation Improvement	r = .24, significant at the .0005 level Hypothesis confirmed.
Hypothesis 8 Range of Possible Decision-making positively correlated with Activity for Situation Improvement	r = .32, significant at the .00001 level Hypothesis confirmed
Hypothesis 9 Positive correlation among Self-evaluation (SE), Perception of Possibilities for Situation Improvement (PPSI) and Activity for Situation Improvement (ASI	SE and PPSI r = .16 SE and ASI r = .20 PPSI and ASI r = .30 all significant beyond the .02 level. Hypothesis confirmed
Hypothesis 10 No relationship between Range of Possible Decision-making and the three dimensions of Dissatisfaction	RPDM and Dissatisfaction with Production Factors r =-.09 RPDM and Dissatisfaction with Land Productivity and Knowledge r = .23 RPDM and Dissatisfaction with Occupation and Residence r = .11 Only r = .23 significant Hypothesis not confirmed.

b. Multiple correlation equations

The following multiple correlations were obtained using different combinations of the variables, here symbolized by X_1 to X_8:

EXPECTED	OBTAINED
Hypothesis 6 ISII positively correlated with Perception of Possibilities for Situation Improvement	r = .11, not significant Hypothesis not confirmed
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Hypothesis 8 Range of Possible Decision-making positively correlated with Activity for Situation Improvement	r = .32, significant at the .00001 level Hypothesis confirmed
Hypothesis 9 Positive correlation among Self-evaluation (SE), Perception of Possibilities for Situation Improvement (PPSI) and Activity for Situation Improvement (ASI	SE and PPSI r = .16 SE and ASI r = .20 PPSI and ASI r = .30 all significant beyond the .02 level. Hypothesis confirmed
Hypothesis 10 No relationship between Range of Possible Decision-making and the three dimensions of Dissatisfaction	RPDM and Dissatisfaction with Production Factors r =-.09 RPDM and Dissatisfaction with Land Productivity and Knowledge r = .23 RPDM and Dissatisfaction with Occupation and Residence r = .11 Only r = .23 significant Hypothesis not confirmed.

b. Multiple correlation equations

The following multiple correlations were obtained using different combinations of the variables, here symbolized by X_1 to X_8:

		Standard deviations[1]
X_1	Range of Possible Decision-making	2.949
X_2	Dissatisfaction with the Production Factors	1.643
X_3	Dissatisfaction with Productivity and Knowledge	1.239
X_4	Dissatisfaction with Occupation and Residence	1.429
X_5	Perception of Possibilities for Situation Improvement	1.895
X_6	Activity for Situation Improvement	1.858
X_7	Self-evaluation	2.840
X_8	Intensity of Search for Instrumental Information	5.951

$$X_{8.12567} = .50\ X_1 + .15X_2 + .06X_5 + .07X_6 + .11X_7$$

$R_{8.12567} = .553$ Variance accounted for: 30%

$$X_{8.13567} = .46\ X_1 + .14X_3 + .02X_5 + .06X_6 + .12X_7$$

$R_{8.13567} = .550$ Variance accounted for: 30%

$$X_{8.14567} = .49\ X_1 + .04X_4 + .02X_5 + .07X_6 + .12X_7$$

$R_{8.14567} = .539$ Variance accounted for: 29%

$$X_{8.1234567} = .47\ X_1 + .13X_2 + .10X_3 - .04X_4 + .05X_5 + .07X_6 + .11X_7$$

$R_{8.1234567} = .555$ Variance accounted for: 31%

Because the standard deviations of the independent variables are fairly close to each other in size, it is safe to say that the weights in the regression equations are fairly good estimates of the relative contribution of each of the variables to the explanation of the dependent variable.

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[1] The factor system which was used to weight each of the variables automatically yielded a mean which is essentially zero for each of the seven independent variables. Variable 8, ISII, has a mean of 25.53.

The results of the multiple correlation equations indicate that:

1) Among the variables studied, X_1, the Range of Possible Decision-making, accounts for an appreciable portion of variance (25%) in the Search for Instrumental Information.
2) The contribution of each of the other variables to the explanation of the variance in the Search for Instrumental Information is quite small.

B. SUMMARY OF THIS CHAPTER

In this chapter the procedure followed to test the hypotheses was presented, including reviewing the preparation of the data, listing the operational hypotheses, describing the statistical methods utilized for the analysis of the data, and describing the findings.

The next chapter will present an interpretation of the findings and their possible application to theory and to policy, as well as suggestions for further research.

CHAPTER VII

CONCLUSION

A. INTRODUCTION

In the first chapter, the general objective of this study was said to be to provide new information about the dynamics of the communication process. Two specific objectives were also stated, namely to test certain hypotheses about some of the social and psychological conditions under which the intensity of the search for information of farmers of the Brazilian Northeast varies; and second, to provide a picture of the communication process in a rural area of Latin America. In this concluding chapter the extent to which these objectives were accomplished will be discussed. The procedure to be followed includes a brief summary of the findings in relation to the two specific objectives; an interpretation of the findings; the conclusions, both for theory and for practical application, that can be inferred from the findings, and finally, some suggestions for future research.

B. BRIEF SUMMARY OF THE FINDINGS

a. Findings in relation to the first specific objective

1) The intensity of Search for Instrumental Information is related to a considerable degree ($r = .54$) to the Range of Possible Decision-making, a variable which indicates the position of the person in relation to education and socioeconomic status. It was also significantly correlated, but with a low coefficient, with the Dissatisfaction with Productivity of the Land and Knowledge ($r = .24$), as well as with Self-

evaluation (r = .21) and with Activity for Situation improvement (r = .24). Information-seeking did not correlate with the Perception of the Possibilities for Situation Improvement (r = .11).

2) Although no relationship was expected between the Range of Possible Decision-making and the Dissatisfaction with the situation, one of the dimensions of dissatisfaction, Productivity of the Land and Knowledge, was found to have a low but significant correlation with the range of decisions. (r = .23)

3) As expected, there is a low but significant correlation among the variables Self-evaluation, Perception of Possibilities for situation improvement and Activity for Situation Improvement.

b. Findings in relation to the second specific objective

1) Knowledge and information are unequally distributed among the socioeconomic strata in rural Timbauba. The landowners and managers have more economic, political, agrarian and agricultural information than the renters and the renters have more than the hired workers.

2) A large percentage of people either do not use the available communication media or use them with no instrumental purpose. Radio, merchants, and the weekly fair seem to be the channels through which most instrumental information is received.

3) Friends, relatives, neighbors, co-workers and other farmers are the main vehicle for intra-community flow of information.

4) The patroes or landlords and the local merchants play a key role in the diffusion of specific types of information.

5) The most frequent places for meeting people are the town on the day of the weekly fair, and the roads and trails to town. The farm fields, where people work together, is also a meeting place frequently mentioned.

6) Friends and relatives are the first sources of information outside the community for non technical matters. For more technical matters, such as agricultural and health, the specialized government agencies are the most mentioned sources. There is no one important source for all matters outside the community.

7) Radio and the priest were preferred as communication channels by the respondents, the priest being named as the most credible source, followed by government agencies and the teacher. Preference and credibility, however, are not related to frequency of use.

8) There are certain communication channels which are typical of the rural Northeast. These are the folhetos and violeiros that were described as having more relevance to consummatory communication than to instrumental information.

9) The different media contribute variously to the dissemination of specific types of instrumental information, i.e., while political information is received through newspapers, radio, and loudspeakers, agricultural information is obtained from almanacs, patrao or managers.

10) While mass media are important for news diffusion, their role in the diffusion of technological information is insignificant. The primary groups are very important for both purposes.

11) The best informed person in the locality is more likely to be a patrao or a merchant. They are thought to be well informed because of their frequent contact with mass media, with other persons in town and because of their frequent travel. They are not reported to be very active communicators and they communicate through personal contact.

12) The farmers in general do not communicate frequently with the authorities, with the exception of the landowners. There is a generalized conviction that the government should take the initiative in collecting feedback information.

13) Because of their recent founding, rural syndicates and agricultural class leaders do not play an important role in the diffusion of instrumental information.

C. INTERPRETATION OF THE FINDINGS

1. The picture presented by the findings in relation to the second objective is one of a strongly stratified rural society, in which knowledge and information is heavily concentrated at the top. It is natural that the most apparent finding of this study is that the best predictor of the intensity of search for instrumental information in Timbauba is the range of decision-making open to the person, i.e., his position in the stratification system. In a rather rigid, feudal-like rural social structure such as this, the more psychological variables, like Self-

Evaluation, Dissatisfaction with the Situation and Perception of Possibilities for Situation improvement, do not play a significant role and account for very little of the variance of information-seeking.

2. The variable Dissatisfaction with the Present Situation was shown not to be unidimensional and only one of its three dimensions - that of dissatisfaction with land productivity and knowledge - was correlated with information-seeking. These explanation, which may be complementary, are offered for the failure of this variable to function as expected:

a. It may be that the type of dissatisfaction which stimulates search for information has not been tapped by the items chosen in this study to represent the variable. This belief is supported in part by the fact that of the three dimensions one did shoe a low but significant correlation with information-seeking.

b. For dissatisfaction to predict information-seeking, the majority of the sample should consist of persons who solve their dissatisfaction by taking positive action to change the present state of affairs. In a traditional social setting like Timbauba's rural sector, it is possible that the tendency for the majority is exactly the opposite, i.e., to solve the dissonance by adjusting to the situation. This may also explain why we found an unexpected relationship between Dissatisfaction with Productivity of Land and Knowledge, and the Range of Decision-making ($r = +.23$). That means that people with the most restricted ranges of decision-making appear to be less dissatisfied than others. Are they less aware of their situation and more resigned to it?

c. For information-seeking to be used as one of the channels for situation improvement, it must be perceived by the people as instrumental in achieving this goal. In the conditions of the rural Pernambuco, however, the amount of instrumental information available in the mass media is very little and the media may well be perceived more as a source of entertainment and day-dreaming than as a source of orientation and instruction for change. Thus, dissatisfaction, if it does have a motivational role in positive action, may not result in information-seeking but in other activities. Although the correlations are very low, it was interesting to find a slight indication - worth pursuing in further studies - that certain kinds of dissatisfaction produce different behavioral outcomes, and among them, dissatisfaction with the productivity of the land and with the present state of knowledge show a small correlation with information-seeking.

3. The low proportion of the total variance of the dependent variable accounted for by the independent variables is explained by the following reasons:

a. The more basic explanation is found in the limitations of the theoretical frame of reference used in this thesis. In effect, the search for information may be stimulated by numerous personal reasons other than the need to make the decisions inherent in the person's status or the need to reduce the dissatisfaction produced by the discrepancy between the present and the desired situation. Moreover, it is possible that dissatisfaction with the situation is too general a variable to predict a very specific behavioral outcome such as information-seeking and it would be more useful to search for less general variables more

specifically associated with this particular behavioral outcome.

b. Another reason may be the rudimentary nature of the instrumenta utilized in this exploratory study. Complex variables like dissatisfaction, self-evaluation, and perception of improvement possibilities, probably require more complex instruments for their measurement. Moreover, these instruments were planned a priori, without a previous careful study of the psychology and culture of the Northeastern rural people, and their levels of validity and reliability are usually modest at best.

c. It is necessary also to recognize the distortive effects introduced by the sheer fact of sending a group of relatively cultured interviewers, from an urban setting, to confront a relatively isolated rural people. Some interviewers adapted themselves rather quickly to the "other world of meaning" of the respondents. Some others did not. For example, some interviewers immediately realized that when they asked farmers about their desire for more "knowledge" (in Portuguese, conhecimento), many farmers interpreted this as the desire "to be better known." Some interviewers provided the necessary explanations to elicit the right type of response. Several others, however, continued using the world "knowledge" without checking on the meaning the respondents gave it. Who knows which respondents answered to which meaning?

d. The procedure chosen for the operationalization of the dependent variable should not be excluded from the list of reasons which perhaps explains the low proportion of variance accounted for. The use of 17 media, from each of which three types of dimensions were measured and combined to represent intensity of information-seeking, must have introduced a certain amount of measurement error.

4. The apparently ineffectual role of the variables other than the range of decision in the multiple correlation equations may be explained also by the following reason: According to Rogers (37)(38) two of the criteria that should be employed in selecting variables to be correlated with the dependent variable in a multiple correlation prediction are:

a. Each independent variable should be highly related to the dependent variable.

b. Each independent variable should have a relatively low interrelationship with each other independent variable.

These criteria were not properly fulfilled in this study. In effect, while only range of possible decision-making was well related to the dependent variable, the majority of the independent variables were correlated with each other.

5. In conclusion, the findings can be said to be far from conclusive. They point, however, to an avenue of thinking about the dynamics of the search for information that presents some promise of being fertile, provided that better variables, more specific and more adapted to the cultural setting of the study, together with more rigorous instruments, are used.

D. CONCLUSIONS FOR THEORY AND APPLICATION

a. Theoretical conclusions

Two theoretical approaches to information-seeking influenced the choice of variables made in this study, namely, the approaches used by Eisenstadt (14)(15)(16) and by Lerner (27). Both look at information-seeking as a means to an end. Eisenstadt indicates that the individual

seeks those communications which help him to perform the meaningful roles to which he has expectations on the basis of his status-image. For Lerner, the key elements in communication-seeking are an aptitude and an attitude. The aptitude is empathy and the attitude is desire to live in a world different from the world in which the person lives today and includes the desire to have opinions of one's own.

The present study also used a means-end-relationship frame of reference. The person is supposed to seek information as an instrument to achieve two things: the ability to make decisions inherent in his social structural position, and second, the actual improvement of the present situation. The first is a goal related to the fact that a decision is a choice between alternatives and that this choice implies knowing about the alternatives. The second goal - improvement of the situation - is assumed to be related to information insofar as through communication the person knows about a new and better situation to which he could move.

The results of the study do not give much support to the use of Dissatisfaction with the Situation as a predictor of information-seeking, at least in the manner in which this variable was conceptualized and operationalized here. It may be that an index of the goal variable itself, the degree to which the individual wants to improve his economic and political situation, would be found to have a higher correlation. This variable would also have to take into account what kind of economic and political situation is actually deisred within the culture in which the study is conducted.

In any case, the study confirmed once more the decisive importance of the social structural conditions on the ability of farmers to receive information within a semifeudal structure. In that framework the psychological differences among individuals seem to have little effect. The hypothesis may be entertained that the psychological variables would be more operative the less rigid the social stratification system, inasmuch as in such a system the range of possible decision is wider and decisions are more determined by the person's idiosyncrasies than by the constraints of the structure. In such a context, for example, dissatisfaction with the situation may be more likely to result in purposive action - inclusing information-seeking - than in resignation and acquiescence to the environmental limitations.

Although the data are meagre, another contribution to theory may be an indication that information-seeking may be a behavioral outcome of special types of dissatisfaction, one which is felt more by better educated persons and which refers to productivity and knowledge.

While the results do not necessarily contradict the theoretical frame of reference used in the study (the dependent variable was found positively correlated with some of the independent variables, as expected), the data do not permit accepting it until further confirmation is obtained. The results, however, justify further explorations along ideas similar to the ones incorporated in the frame of reference.

b. Applied conclusions

1. A first applied consequence may be that, if instrumental information is to reach many of the farmers in an area of rigid social

stratification, ways must be found to either circumvent the structural barriers without modifying drastically the stratification system, or to alter the stratification system so as to provide the people with a wider range of possible decision-making.

Ways to circumvent the structure may be the following:

- Increase literacy and education, but on the basis of an educational policy aimed at training people for decision-making, not for conformity, decision-making oriented to clearcut goals meaningful to the rural people.

- Provide more communication channels and make them accessible to all the farmers, including both mass media and democratic class organizations that should act not only as conveyors of government plans and regulations, and society's modernizing orientations, but also as feedback channels which would maintain the government and the leaders of society aware of the needs and desires of the farmers.

- Encourage the inclusion of more instrumental content in the mass media including political, technical, agrarian and economic information of meaningful and useful application in the farmers' decisions.

- Through research, identify the most efficient channels to disseminate instrumental information at the local level.

- Provide at the local level the necessary additional factors for information to be applicable and useful in the farmers' decisions, such as seeds, tools, fertilizer, credit, and other material inputs.

Now, the ways to modify the present social stratification system may depend on the overall policy of the country, which in turn depends upon the development philosophy adopted. The more commonly accepted way today is agrarian reform, which usually aims at increasing the number of farmers owning land. A less widespread approach is the one which recommends keeping the present farms big, consolidating the minifundia, and taking steps to remove as many people from agriculture as possible, transporting

them to the cities within a comprehensive industrialization and construction plan[1].

2. The study may indicate also that the promotion of dissatisfaction may result in a small degree of intensification of information-seeking among the farmers, but, if any, the type of dissatisfaction that should be promoted is that concerned with the present productivity of the land and with the level of knowledge. With regard to stimulation of dissatisfaction with the ownership of production factors or with occupation and residence, the data suggest that conditions similar to the Timbauba rural sector may produce responses other than the search for instrumental information. In any case, because the correlations are quite low, this approach is not very promising.

F. SUGGESTIONS FOR FUTURE RESEARCH

The range of possible decision-making in this study proved to be a relatively good predictor of information-seeking in the municipio of Timbauba. This index was composed of several dimensions, such as land owned or rented, income indicator, number of workers supervised, type of occupation, literacy and schooling. It would be useful to ascertain which of these dimensions, or others possibly pertinent to decision-making, relate higher to information-seeking.

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[1] See, for instance, Currie, L. "Implications of Agricultural Technification in Underdeveloped Countries," paper presented at the Conference on the Development of Highland Communities in Latin America, Cornell University, March21-25, 1966 (mimeographed).

Moreover, the above mentioned dimensions, or items, were used only as indirect indicators of the range of decision-making possible for the farmers. A more direct way would be to measure the actual number and importance of the decisions made by the farmers within a given period of time. This is to say that while the index employed in this study marked only the parameters, or the levels, in which people must or can make decisions, a more precise measurement of actual decisions made could provide more insight about the relative need for information that those decisions represent.

This type of individual-centered study might also give a more detailed picture of how the personal characteristics intervene between the process of decision-making and the search for information. While in the present thesis these personal characteristics were self-evaluation and perception of possibilities for situation improvement, as well as the person's general activity for increasing ownership of production factors, further study is needed of other dimensions such as the following:

a. The objective existence of alternatives to the present situation and whether the farmer perceives them or not. These objective alternatives should take into account the restraints and facilitations of income, capital, credit, market, knowledge, experience, costs and returns, new economic inputs, besides the social and political factors.

b. The ability of the individual farmer to relate the information available to his own decision problems. Importance, relevance, and attraction of information are part of such considerations.

c. Studies are needed of attitudinal variables such as risk orientation, deferred gratification patterns, perception of social influence, tolerance of ambiguity, perception of ability to make choices, anomy and alienation.

The latter brings us to the problem of dissatisfaction. In this thesis that variable did not show much significant predictive power, despite its theoretical promise. A better means-end scheme should be sought in order to define what the ends are of the farmers for whom information seeking is a means. One question is how much discrepancy is necessary for a person to perceive it; another question is how much discrepancy the farmers are able to perceive between what they are and what they might be. What degree of dissatisfaction is necessary to make them do something to correct it? Do the local culture, the local stratification system or other factors influence the behavioral expression of dissatisfaction?[1]

A more basic question may be, "What is dissatisfaction?" In this thesis the variable dissatisfaction proved to be multidimensional. Besides the types of dissatisfaction included in this thesis, which other kinds could be related to information thinking?

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[1] In this thesis the working assumption was that people solve their cognitive dissonance with respect to their situation by taking steps to change it. Research is needed to ascertain for what kinds of persons cognitive dissonance is reduced not by attempting to change the situation but by acquiescing to it. An entirely new set of hypotheses would be more appropriate for this group. For them, as an example, the greater the objective possibility of the situation improvement (i.e. the enlargement of their decision range) the greater may be the dissonance and the smaller their search for information.

Instead of employing a negative attitude such as dissatisfaction as a predictor of information-seeking, would it be more productive to employ positive attitudes, such as level of occupational aspiration, political aspiration, reference group, urban orientation? The advantages of the positive goal-centered approach may have been suggested by the finding that an aspiration for more land productivity and more knowledge is related to information seeking.

In this thesis, the personal factors did not seem to contribute much to the variance of search for information. Would this be true also in less rigid social stratification systems? Studies are needed in which the social dimension is kept constant or isolated, in order to see which are the more personal factors accounting for the individual differences in information-seeking.

Finally, a study is also needed of the dissatisfaction-producing effects of new information. Does new information increase or decrease satisfaction? In which conditions is one or the other effect likely to be produced?

G. CONCLUSION

The research project reported in the present thesis tested the relative correlation of several social and personal variables on the one hand, and the search for instrumental information on the other. On the basis of previous findings and through the use of a motivational frame of reference, it was hypothesized that the search for information is correlated with the range of decisions available to the person and with

the person's attitude with respect to that range. This attitude was thought to take the form of different degrees of dissatisfaction. It was also expected that the person's self-evaluation and his perception of possibilities for situation improvement would be associated with his information seeking behavior. Moreover, it was expected that information seeking would correlate with the person's general activity for situation improvement.

A rural area of the Brazilian Northeast, characterized by a relatively rigid stratification system, was chosen as the setting for the study.

On the negative side, the results indicated that, as measured therein, the psychological variables of this research were not very useful in accounting for variance in the Timbauba (Northeastern Brazil) farmers' search for instrumental information -- the knowledge they must have to improve their lot.

On the other hand, the socio-economic conditions presumably controlling the range of decisions open to the person seem to have a substantial correlation with the search for instrumental information.

Thus the theoretical framework which generated the hypotheses is in need of modification. However, new research is needed before the precise changes can be specified.

BIBLIOGRAPHY(*)

1. Abel, H. The Exchange of Farming Information. Ottawa, Canada: Department of Agriculture, Marketing Service, Economics Division. August, 1953.

2. Atkinson, J.W. Motives in Fantasy, Action and Society. New York: Van Nostrand. 1958.

3. Berelson, B. and Steiner, G.A. Human Behavior: An Inventory of Scientific Findings. New York: Harcourt, Brace and World Inc., 1964.

4. Berlyne, D.E. Conflict, Arousal, and Curiosity. New York: McGraw Hill Book Co. 1960.

5. Blair, T.L. "Social Structure and Information Exposure in Rural Brazil." Rural Sociology, 25(1): 65-75. 1960.

6. Bostian, L.R. "Socioeconomic Factors Associated with Communication Behavior of Farm Operators in Selected Wisconsin Communities." Unpublished Ph.D. dissertation. Madison, Wisconsin: University of Wisconsin. 1959.

7. Carneiro Campos, R. Folhetos Populares Na Zona dos Engenhos de Pernambuco. Recife, Pernambuco, Brazil: Instituto Joaquim Nabuco de Pesquisas Sociais. Separata do Boletim No. 4, 1957.

8. Correia de Andrade, M. O Homen e a Terra no Nordeste. Sao Paulo, Brazil: Editora Brasiliense. 1962.

9. Dean, D.G. "Alienation: Its Meaning and Measurement." American Sociological Review, 26. October 1961.

10. Deutschmann, P.J. and Fals Borda, O. Communication and Adoption Patterns in an Andean Village. San Jose, Costa Rica: Programa Interamericano de Informacion Popular. December 1962.

11. Deutschamnn, P.J. and Mendez, A. Adoption of New Foods and Drugs in Cholena: A Preliminary Report. San Jose, Costa Rica: Programa Interamericano de Informacion Populat. November 1962.

12. _____ and McNelly, J.T. El Uso de los Medios de Communication Masiva en Dos Comunidades Latinoamericanas. San Jose, Costa Rica: Programa Intermaericano de Informacion Populat. 1963.

(*)Book titles are underlined; titles of theses and journal articles carry semicolons and are not underlined; bulletin titles carry no semicolon and are not underlined.

13. Dorner, P. and Thiesenhusen, W. "Relevant Research Programs to be Conducted in Developing Countries". Journal of Farm Economics, 46(5). Proceedings Issue. December 1964.

14. Eisenstadt, S.N. "Communication Processes Among Immigrants in Israel." Public Opinion Quarterly. Spring 1952.

15. _____. "Conditions of Communicative Receptivity." Public Opinion Quarterly. Fall 1953.

16. _____. "Communication Systems and Social Structure: An Exploratory Comparative Study." Public Opinion Quarterly. Summer 1955.

17. Emory, F.E., Oeser, O., and Tully, J. Information, Decision and Action: A Study of the Psychological Determinants in Farming Techniques. Carlton, Victoria, Australia: Melbourne University Press, 1958.

18. Felstehausen, H. "Economic Knowledge and Comprehension in a Netherlands Farming Community." Unpublished Ph.D. dissertation. Madison, Wisconsin: University of Wisconsin, 1964.

19. Festinger, L. The Theory of Cognitive Dissonance. Evanston, Illinois: Row, Peterson, 1957.

20. Ferreira, Jurandyr Pires, ed. Enciclopedia dos Municipios Brasileiros. Rio de Janeiro, Brazil: Conselhos Nacional de Geografia e Nacional de Estadistica, Vol. XVIII, 1958.

21. Fliegel, F.C. and Oliveira, F.C. Receptividade a Ideias Novas e Exodo Rural Numa Area Colonial. Porto Alegre, Brazil: Instituto de Estudos e Pesquisas Economicas, Faculdade de Ciencias Economicas da Universidade do Rio Grande do Sul, Estudos e Trabalhos No. 14, 1963.

22. Haller, A.O., Escobar, F. and Pinto, J.B. "Cem Kilometros do Progresso." Unpublished research. Rio de Janeiro, Brazil: Universidade Rural do Brasil, Kilometro 47. 1963.

23. Hirschmann, A.O. Journeys Toward Progress. New York: The Twentieth Century Fund Inc. 1963.

24. Juliao, F. Que Sao as Ligas Camponesas? Rio de Janeiro, Brazil: Editora Civilizacao Brasileira, Cuadernos do Povo. 1962.

25. Katz, E. and Lazarsfeld, P. Personal Influence. Glencoe, Illinois: The Free Press. 1955.

26. Kluckhohn, F. and Strodtbeck, F. Variations in Value Orientations. Evanston, Illinois: Row, Peterson. 1963.

27. Lerner, D. The Passing of the Traditional Society. Glencoe, Illinois: The Free Press. 1958.

28. Lionberger, H. Adoption of New Ideas and Practices. Ames, Iowa: The Iowa State University Press. 1960.

29. Loomis, C.P. Social Systems: Essays on Their Persistence and Change. New York: Van Nostrand. 1960.

30. McNelly, J.T. and Torres, A.A. El Uso de los Medios de Comunicacion en una Capital Latinoamericana. San Jose, Costa Rica: Programa Intermaericano de Informacion Popular. 1963.

31. Meier, D.L. and Bell, W. "Anomia and Differential Access to the Achievement of Life Goals." American Sociological Review, 24. April 1959.

32. Merton, R.T. Social Theory and Social Structure. Glencoe, Illinois: The Free Press. 1957.

33. Mosher, A. Interrelationships Between Agricultural Development, Social Organization and Personal Attitudes and Values. Ithaca, New York: Cornell University, Cooperative Extension Service, Bulletin No. 12.

34. Myren, D.T. "A Study of the Distribution of Mass Media Among Farmers and the Relationships of This Distribution to Certain Socioeconomic Characteristics." Unpublished Ph.D. dissertation. Madison, Wisconsin: University of Wisconsin. 1955.

35. Oliver Padilla, O. "Relationships Between Value and Channel Orientation and Practice Adoption Among Puerto Rican Dairy Farmers." Unpublished Ph.D. dissertation. East Lansing, Michigan: Michigan State University. 1963.

36. Robbock, S. Brazil's Developing Northeast. New York: The Brookings Institution. 1964.

37. Rogers, E.M. "Predicting Innovativeness." Sociological Inquiry, 32, Winter 1962.

38. _____. Diffusion of Innovations. New York: The Free Press of Glencoe. 1962.

39. Rokeach, M. The Open and Closed Mind. New York: Basic Books Inc. 1960.

40. Schultz, T.W. Transforming Traditional Agriculture, New Haven, Connecticut: Yale University Press. 1964.

41. Seeman, M. "On the Meaning of Alienation." American Sociological Review, 24, December 1959.

42. Simon, H.A. "New Developments in the Theory of the Firm." American Economic Review, May 1962, 1-15.

43. Shibutani, M. Society and Personality. New York: Prentice Hall. 1961.

44. Snygg D. and Comb, A.W. Human Behavior, New York: Harper and Row. 1959.

45. Spector, P., Torres, A.A., Lichtenstein, S., and Preston, H.O. Communication and Motivation in Community Development: An Experiment. Washington, D.C.: Institute for International Services. November 1963.

46. Stycos Mayone, J. "Patterns of Communication in a Rural Greek Village." Public Opinion Quarterly. Spring 1962.

47. Valverde, O. O Noroeste da Mata Pernambucana: A Regiao de Timbauba. Rio de Janeiro, Brazil: Separata do Boletim Carioca de Geografia, Nos. 1 e 2, Ano XIII, 1960.

48. Vasconcelos, E. "Differential Contacts with Welfare Services in Four Brazilian Communities Within a Rural-Urban Situation." Unpublished Master's dissertation. Madison, Wisconsin: University of Wisconsin. 1955.

49. Waisanen, F. "Stability, Alienation and Change." Sociological Quarterly, January 1963.

50. Wilkening, E.A., Tully, J. and Presser, H. "Communication and Acceptance of Recommended Farm Practices Among Dairy Farmers of Northern Victoria." Rural Sociology, 27 (2), June 1962.

51. _____. "The Communication of Ideas on Innovation in Agriculture." Studies of Innovation and of Communication to the Public. Stanford, University, Institute for Communication Research, Studies in the Utilization of Behavioral Science Series, Vol. II, 1962.

APPENDIX I

GLOSSARY OF PORTUGUESE TERMS

Acucar bangue: Non refined sugar, produced by the more primitive engenhos or sugar mills.

Administracoes: Administrative divisions of the land of an usina, under the command of an administrador.

Agreste (Zona de): One of the three ecological sub-regions in which the Brazilian Northeast is divided. Its agriculture is more diversified and there are more small farms than in the other two sub-regions.

Agrimensor: Land surveyor.

Agronomo: A professional agriculturist with a degree from an agricultural college.

Amarelhinho: Because the sertanejos are whiter than people from the litoral, they are affectionately called "little yellow ones" by the poets who write the folhetos. Most of these poets are sertanejos themselves.

Analfabetismo: Illiteracy.

Armazens: Warehouses.

Babacu: Palm from which an oil is extracted.

Barracao: Small store, owned by the landlord, in which articles necessary for the workers' needs are sold.

Barraquinha: The small booths set up during fairs, popular festivals, etc., where food and drinks are served to the people.

Bolandeiras: Machines used to process raw cotton.

Bodegueiro: The man who runs a bodeiga or country store in which liquor is also sold. More specifically, the manager of the landlord's barracao.

Brancos de algodao: Negroes who became rich producing and selling algodao, cotton, and who are thus treated as whites.

Brejos: In Pernambuco these indicate small areas which, because of their altitude or relative location, have micro-climates more propicious for agriculture.

Cabos: Field supervisors who watch, some times mounted on horse or mule, the work of the field laborers and control the number of contas worked by each to estimate payment.

Campanha: Campaing.

Campanes: In general, people who work the land. More specifically, small farmers and sharecroppers or renters.

Cantador: Men who sing the content of the folhetos at fairs to promote their sale.

Capanga: Strong man who works as the boss's bodyguard.

Capitanias: Administrative divisions of the land of an usina, under the command of a capitan.

Cara: Plant with edible roots.

Cargueiro: Worker in charge of the mules, burros, etc., on which the sugar cane is hauled from the field to the gathering or loading points.

Carnauba: Palm from whose leaves wax is extracted.

Cidade: The site of a municipio.

Cocheira: The place in town where the farmers leave their horses and carts overnight for a fee. Often the farmers themselves spend the night there.

Cocheiro: Worker in charge of the carts on which sugar cane is transported from the gathering points to the mills.

Colegio: Second, more specialized part of the high school program in Brazil.

Companhia: Company.

Conta: Measure of the amount of work performed by a field laborer. Usually it is a certain longitude on a row of sugar cane, but it can also be a measure of area.

Corretor: Person who buys and sells either real estate or animals.

Curral: In general, a pen for cattle. In particular, the city's stockyard.

Corumbas - Caatingueiros: People from the Sertao who come to the more agricultural zones of the Northeast (Mata and Agreste) to work seasonally.

Defesa sanitaria animal: Animal health defense.

Descarocadeiras: Machines used to remove the cotton fiber from its boll.

Distrito: Administrative division of a municipio.

Eito: The sugar cane field. Eiteiros: the field workers on sugar cane farms.

Endemias: Contagious diseases which are widespread among the people.

Engano-de-lapis: Trick by which the landlord's store manager overcharges the workers so that they are always in debt to the patrao.

Engenho: Specifically, sugar mill, but the word is also applied to the whole fazenda de cana or sugar cane farm. Literally "engenho" means engine and referred originally to the mills used to grind the sugar.

Engenhos de fogo morto: Sugar mills which have stopped processing sugar cane, often due to the establishment of an usina in the vicinity.

Escritorio Tecnico de Agricultura (ETA): Organization established jointly by the Brazilian Ministry of Agriculture and the U.S. Point Four, to use American dollars and technicians in numerous projects aimed at making Brazilian agriculture more dynamic and efficient. Its headquarters are in Rio but its Projects are all over Brazil.

Foguista de engenho: Worker in charge of the fire for the boilers in the sugar mills and usinas.

Folhetinistas: Popular poets who write folhetos and have them printed in Recife and other cities of the Northeast.

Folhetos: Cheaply printed leaflets containing fantasy stories written in verse. Sold throughout the Northeast in fairs and stores.

Fomento agricola: The predecessor of Agricultural Extension; government agronomos were located on the sites of the municipios, in charge of giving advice to farmers, distributing seeds, tools, etc., and particularly enforcing government regulations.

Fornecedores de cana: Men who make a living out of growing cane or buying cane from the producers and selling it to the usinas. Many are former senhores de engenho who were bought out by the usineiros.

Foro: Cash payment that must be made to the landlord for the use of land. Foreiros are the sharecroppers who work under this arrangement.

Ginasio: First general part of the high school program in Brazil.

Inhame: Edible tuber looking somewhat like a sweet potato.

Latifundiario: Owner of a large property.

Leite: Milk.

Ligas Camponesas: Farmers' organizations which started as mutual help associations but which later, under the leadership of Francisco Juliao and others, become political class associations of a leftist character.

Mangaieiros: Persons who buy agricultural products from the producers and sell them at the weekly fairs. Often they own some horses or a small truck for the transportation of the merchandise.

Mata (Zona da): One of the three ecological subregions in which the Brazilian Northeast is divided. Sugar cane cultivation dominates the agricultural picture and latifundia dominates the rural social structure. The main cities of the Northeast are located in this litoral subregion.

Meia: Obligation to give a half of the crop to the landlord. Meieiros are the sharecroppers who work under this arrangement.

Monitor: A local person who helps the rural students understand the lessons brought to them by the radio programs broadcast by the Movimento de Educacao de Base.

Moradores: In general, landless farmers who live on the landlord's farm. More specifically the renters or sharecroppers.

Municipio: One of the administrative divisions of a state, corresponding roughly to a country.

Oiticica: Plant from which oil is obtained.

Palma forrajeira: Cactus used as animal food in areas where grass dries out during summer. The farmers cultivate this plant in rows just like any other crop.

Parceria: Economic institution by which the producer of agricultural products gives a part of the crop to the owner of the land.

Patrao, patroes: In general, "boss." More specifically, the landowner.

Piacava: Plant from which oil is obtained.

Posto: Rural post of a government agency.

Rapadura: Brown sugar sold generally in the shape of bricks.

Reza: Semisupersticious prayers and rituals followed by the farmers and peasants in order to protect their crops from pests and diseases.

Rocado: In general, the land where cultivation is made. More specifically a small parcel of land granted by the landowners to their workers to grow food crops in their spare time with the help of members of their families.

Saude: Health.

Senhores de engenho: Owners of sugar mills and of the land surrounding them.

Serra: Mountainous area.

Serralheiro: Worker in charge of sawing logs.

Sertanejos: People from the Sertao.

Sertao (Zona do): The largest of the three ecological subregions in which the Brazilian Northeast is divided. Cotton and cattle are its main agricultural industries. Its climate is of the desert type.

Sitios: Small parcels supplied by the landowners to their hired workers to produce their staples. More generally, a small farm.

Sujeicao: Form of payment for the use of land which obligates the person to work several days a week for the landlord.

Trabalhadores assalariados: Landless agricultural workers, hired by the
Trabalhadores alugados: landowners on a daily wage basis or on task
Trabalhadores de eito: basis.

Trabalhadores de fora: Hired workers who do not live on the farm but outside and come to work every day. Many live in small towns.

Tercia: Obligation to give a third of the crop to the landlord. Terceiros are the sharecroppers who work under this arrangement.

Usineiro: Owner of a usina or sugar factory in the field.

Vereador: Municipal board member. The vereadores are elected by the people of their respective distritos.

Vales de barracao: Form of non cash payment for labor in the semi-feudal Northeast. They are pieces of paper which authorize the worker to order merchandise in the landlord's store, the barracao.

Vila: The site of a distrito.

Violeiro: Wandering trobadour who sings folk music accompanied by a guitar. He is also called cantador de viola, viola being the guitar.