COMMUNICATION, CONSUMPTION, AND MODERNIZATION IN TWO RURAL BOLIVIAN VILLAGES

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ABSTRACT

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By

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To promote the growth of the rural-agricultural sector in underdeveloped countries, it is necessary to strengthen its links with the modern-urban sector. One means of accomplishing this goal may be to increase the counter-flow of goods and messages from the modern-urban sector to the rural areas in the hope that modernization will be facilitated.

The main objective of the study was to determine the impact of exposure to modern-urban goods and messages on the modernizing behavior of rural-peasant farmers. More specifically, it was to explore the interrelationships among behaviors indicating exposure to modern-urban goods and messages, and in turn, trace their effect on consumption attitudes, innovation potentials, and differing patterns of consumption.

A questionnaire was devised to collect information about mass media exposure, knowledge of radio advertising, attendance at rural fairs, geographic mobility, age, language ability, empathy, consumption attitudes, and consumption patterns. The questionnaire was submitted to seventy respondents in two rural villages near La Paz, Bolivia. Several indices were constructed from this information and the results were analyzed using correlational and factor analytic procedures.

A number of "expectations" based on the following general statement regarding the impact of modern-urban goods and messages were formulated:

Exposure to modern-urban goods and messages constitutes a general orientation toward the modern-urban sector, and the different manifestations of this orientation will be highly interrelated. As a result of this general orientation, exposure to goods and messages originating in the modern-urban sector will act to change attitudes towards consumption in such a manner as to cause the traditional, rural individual to be more oriented toward consumption and, at the same time, to respect a similar orientation in his neighbor.

This new orientation toward consumption will then lead to a desire to better one's economic situation by becoming more receptive to innovations which might increase the productivity of the individual.

Parallel to this, a change in consumption attitudes will also be reflected in the individual's consumption patterns. He will tend to consume more goods of a productive or a non-essential nature in addition to those goods which are necessary for his survival. The consumption of productive goods will reflect his desire to improve his productivity, while the consumption of non-essential goods will reflect his desire to reap the fruits of that productivity.

It was found that four of the five measures of exposure to modern-urban goods and messages were highly intercorrelated, suggesting that there is some reason to believe that they do constitute a general orientation toward the modern-urban sector. However, no evidence was found to support the contention that this general orientation affected consumption attitudes, or that consumption attitudes in turn were related to innovative propensities or different consumption patterns.

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INTRODUCTION

Since the end of the Second World War the problem of economic underdevelopment has been met with growing interest on the part of economist, sociologist, anthropologist, and communication researchers. The widening gap between rich and poor nations has brought interest and action to bear on the questions of economic growth. What makes certain areas and countries develop while others lag behind? And how can those factors be stimulated to bring about uninterrupted growth?

Most underdeveloped countries are anchored in an agrarian economy, one in which land cultivation provides a livelihood for a majority of the population. Scattered urban centers are surrounded by large rural areas, both functionally interdependent, yet at the same time separated by important social, economic and cultural differences. The urban middle class is more cosmopolitan, wealthier, and generally more oriented toward the modern world than is their rural counterpart. Urbanites work in industry and related commerce; they read more newspapers, magazines, and books; they attend more movies; they have more education and training; they are more mobile; and they live in a generally more complex and changing environment. The rural population, on the other hand, is

composed of individuals in a more traditional social structure; one based on extended family, village, clan or tribal groupings. Agriculture within these social units is often only subsistence in character, with at best a minimal surplus produced for the urban or other markets. Age-old technology is preferred to modern farming methods despite the growing need for food in the urban sectors. Low productivity and poverty conditions reinforce one another and combine with an isolation from the modern world to frustrate attempts to balance the disproportionate growth of the urban and rural sectors.

For modernization of the rural sector to occur, traditional orientations must change. This point is well stated by C. E. Black:

> ...one of the most fundamental problems of modernization has been that the construction of a new way of life involves the destruction of the old. If one thinks of modernization as the integration or the reintegration of societies on the basis of new principles, one must also think of it as involving the disintegration of traditional societies. (Black, 1966, p.27)

Characteristics of traditional societies often are in direct opposition to the orientations necessary for modernization. Illiterate and uneducated farmers fail to benefit from new agricultural technology because they simply have not developed the capacity to comprehend new ideas. A strong sense of familism blocks social and geographic mobility, while low empathy and a lack of interpersonal trust constrict the

sense of a "significant world" to village size. New institutions are needed for the re-socialization of traditional people, and it is unlikely that the family or the village units will do the job. On the contrary, the gestalt of traditional attitudes and behaviors may well be a mirror image of the gestalt of modernization propensities. Instead, an orientation away from the family and the village -- the mainstays of traditional life -- is of prime importance in the process of modernization.* One of these orientations is

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*This point of view, however, has been criticized as unrealistic by Sen (1968). He has argued that traditionalism and modernization are not necessarily in opposition to one another.

> Lerner and others sincerely believe that adoption of science and technology on the one hand, and maintaining traditional (non-western) social organizations on the other are contradictory . . . No doubt there will be some repetitions and duplications. An industrializing nation has got to have factories, specialization of occupations, technological competence, educational institutions to produce such competence, mass media and so on. But it is a mistake to say that in order to attain these one has to join the Calvinistic cult or destroy the extended family system to liberate the individual. The argument of total transformation is based on the fallacy that tradition and modernity are discreet polarities and that modernization is a linear progression from "non-western" traditionalism to "western" modernity. (1968, pp. 4-5)

Modernization seen as a linear progression from traditional to modern excludes the possibility that certain traditional traits do not hinder change and may even facilitate it. Sen, therefore, proposes that modernization be considered a multilinear process. Seen in this way each developing society may modernize in any number of different ways (not just the "western" way), combining modern cultural traits with their own traditional ones. Such a transformation will be unique and most likely more stable and less disruptive than a complete surrender to "western" technology, values and norms, social organization, etc.

toward the modern-urban sector and the channels of communication which tie it to the rural sector.

The growth gap between the urban and rural sectors of underdeveloped countries is considered by W. W. Rostow to be a more important focus than the gap between rich and poor nations.* The economic superiority of some countries and the inferiority of others is only a symptom of a more basic problem: the structural distortions which arise within a country when the growth of its various sectors proceed at different rates. Once these structural distortions are resolved, a self-sustaining growth throughout all sectors of developing countries can be initiated and the rich-poor nation gap will begin to close.

The present study relies heavily on Rostow's thinking for a basic framework within which the ideas, findings, and conclusions presented here can be evaluated. The remainder of this section will therefore be devoted to a summary of Rostow's observations. Following the discussion of Rostow's proposal, will be a section on the objectives of this study. In Chapter II, a review of the literature will be undertaken to help clarify the direction this study will take. Chapter III will deal with the methodology of the present study, Chapter IV will present the results, and Chapter V will contain a summary and recommendations.

* See Rostow (1961).

Rostow's Proposal

At the crux of Rostow's (1964) proposal is the view that in most developing countries the disproportionate growth between the rural and urban areas must be readjusted. However, in doing this, several things must occur. The productivity of the countryside and the rural markets for industrial output must be simultaneously expanded. Increasing the productivity of the rural sector by supplying it with more efficient farming equipment and techniques will increase the supply of food to the urban population. The increased food supply in the cities will have two effects: it will raise farming incomes in the rural sector - thus providing a larger market for the cities' industrial output -- and, at the same time, it will lower food prices in the cities, leading to a greater industrial efficiency. In turn, the added efficiency of the industrial sector will enable it to provide more and cheaper goods to the rural market. These goods -- both capital and incentive goods -- will then provide an additional boost to agricultural productivity. Each sector will advance in response to stimulation from the other, and a process of mutual facilitation and growth will have begun.*

*A frequently argued subject is the degree to which these channels of exchange already exist in prototype form in most underdeveloped countries. Belshaw (1965) says that the modern (urban) and traditional (rural) sectors of underdeveloped countries have historically been seen as separated, isolated from one another, and because of this view the conclusion is usually drawn that what takes place in one sector does not affect the reactions of the other. The logic, however, is faulty.(cont'd.)

THE CHARACTER OF UNBALANCED GROWTH

Rostow sees the beginning of the difference in growth between the urban and rural sectors in the early stages of purposeful modernization by developing countries. Most of these countries initiated development by concentrating their efforts on the production of manufactured goods as substitutes for imported goods, and on the creation of a basic infrastructure of roads, power, communication systems, etc. Yet, such concentration on industrialization has caused unbalanced growth from which it seems difficult to escape.

What are the characteristics of developing societies in an unbalanced state of growth? Rostow cites four general features:

1. There is some industrial capacity, usually developed to substitute for the import of certain kinds of consumers' goods. The easiest way to begin industrialization is to set high tariffs or to otherwise prevent the importation of luxury goods and to begin to produce them at home. This both saves foreign exchange and permits industrialization to begin.

2. Leaving textiles aside, the market for these manufactured goods is small. Consequently, there is a tendency for industrialization to slow down, once the substitution for imports has taken place.

3. Although some agricultural development is taking place, the gap between rural and urban life is widening. As a result of this imbalance, a number of these developing nations have become dependent on the import of food for

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Societies in underdeveloped countries cannot be dicotomized into sectors (modern or traditional) with rigid demarcations defining the boundaries of each. There are not simply <u>two</u> sectors, but many economic and social styles between the extremes of modern and traditional which mediate interactions between them and supply channels through which goods and messages are exchanged.

their cities; they have not developed the possibilities of agriculture for the supply of industrial raw materials or exports; and the agricultural population is not an effective market for industrial products.

4. Finally, as a result of this imbalance, men and women move from the countryside to the cities, where often, they remain unemployed and impose a burden on government budgets for housing, education, and so on, even though they live in urban slums.

Therefore, establishing trade, or an exchange of goods between the industrial and agricultural sectors, is of primary importance. The prices of manufactured goods sold in the rural areas are often too high, while the prices paid for food goods and the allocations for rural development are often too low. The task is to break down these inequalities and to create a truly national market system in which the respective advances of the agricultural and industrial areas will be mutually reinforcing.

THE NATIONAL MARKET STRATEGY

Rostow states four major tasks to be accomplished within the framework of an overall national strategy:

1. A build-up of agricultural productivity. Much assistance to the agricultural sector has taken the form of roads and communication facilities, as well as the beginnings of basic rural education. But these in themselves do not change productivity; in addition there is a great need for more technical advice, more credit resources, and increased incentives to shift from traditional crops and methods to a

more modern form of agricultural production.

2. A revolution in the marketing of agricultural products in the cities. One requirement of a successful agricultural revolution is that food distributors as well as food producers begin to think in terms of a mass market with small unit profits which can be compensated for by a larger turnover, therefore, bringing a satisfactory return on capital.

3. A shift of industry to the production of simple agricultural equipment and consumer goods for the mass market. Industry must not only sell to the small, wealthy middle class, but to the potential mass market, part of which is to be found in the rural areas. Rostow has in mind simple agricultural equipment, cheap textiles, canvas shoes, flashlights, household equipment, transistor radios, and first-phase durable consumer goods -- bicycles and sewing machines.

4. A revolution in marketing methods for such cheap manufactured goods, especially in the rural areas. The new goods must also be marketed in the rural areas. Perhaps mail order catalogs could be used if the literacy rate is high enough and postal service is sufficient, but this is seldom the case. What may be required are mobile trucks which would go at regular intervals into the villages with stocks of consumers goods and agricultural equipment.

This then is Rostow's four-point program for building a national market and removing the imbalance between the rural and urban sectors of underdeveloped countries. Its impact on the rural area would be in terms of goods and messages capable of providing the incentives necessary for shifts in agricultural productivity. In the industrial sector it would mean expanded markets leading to greater industrial profits as well as an increased supply of the food stuffs needed to feed the growing urban population.

THE ROLE OF COMMUNICATION

The role of communication in creating a national market system is an important one. How it can help in completing the tasks outlined by Rostow is suggested in the following four types of information exchange which can take place between the urban and rural sectors.

1. Information from the urban sector is necessary for increasing agricultural productivity. Information about new agricultural tools and techniques can be supplied by extension agents, radio farm forums, government literature, and the manufacturers or vendors of farm products.

2. Information about agricultural demand condition is important to the marketing of food in the cities. The urban sector is the source of information about the relative demands for certain types of agricultural products in the cities, the prices being paid for these products, and the locations at which they may be sold.

3. Information having origin in the modern-urban sector can facilitate the marketing of inexpensive manufactured goods in the rural areas. Specifically, it can provide promotional information about specific goods and services; advertising for consumer goods like shoes, bicycles, household items, etc. or for production-investment goods like fertilizer, seeds, tools, etc. Generally, it can provide a "climate for modernization" by exposing rural people to the intangible benefits of the modern-urban life; exposure which will ultimately raise aspirations and create a desire for achievement.

Rostow's program for building a national market system and its implications for the process of communication between the urban and rural sectors of developing countries will provide the basic framework within which the conclusions of the present study will be evaluated.

Objectives of the Study

OBJECTIVES

To promote the growth of the agricultural sector in underdeveloped countries, it is necessary to strengthen its links with the modern-urban sectors and to create a truly national market system; a system in which the rural sector is a functioning and productive part. Rostow (1964) and others have suggested that increasing the counterflow of goods and messages to the rural areas is crucial to this goal. The counterflow of goods and messages is composed of consumer and production-investment goods accompanied by a parallel

flow of messages about the availability, desirability, and utility of these goods. In addition, there is a flow of messages from the modern-urban sector which provides a more general picture of the character of modern life.

The impact which exposure to the modern-urban goods and messages will have on the rural sector is, in part, a function of the character of those goods and messages. But, more important, it is a function of the economic, socio-psychological, and demographic characteristics of individuals in rural societies.

In focusing on the role of the counterflow in development, this exploratory study takes on two major objectives:

1. To review the literature related to the problems of growth and modernization in the rural sectors of developing countries and to construct a descriptive model which will help clarify some of these problems. The model will include those elements of rural societies which are suggested in the literature review as being important to its development.

2. To describe the impact of exposure to modern-urban goods and messages on the modernizing behavior of rural, peasant farmers. More specifically, the objective is to explore the interrelationships among behaviors indicating exposure to mass communication emanating from the modern-urban sector, exposure to modern-urban goods as well as messages about those goods, individual attitudes about consumption, innovative potential, and different styles or patterns of communication.

Impetus for the Study

The impetus for this study began in 1966 when Michigan State University's Latin American Market Planning Center undertook, for the Latin American Regional Bureau of the U.S. Agency for International Development, a study of the internal market processes of selected Latin American communities. During the period from October 1966 to September 1967, the Center's research staff conducted investigations of six areas crucial to the internal market processes of the urban food market and selected rural consumer markets in the food shed serving La Paz, Bolivia. The study presented here is based on data collected in two rural villages and five rural fairs in the Lake Titicaca region of the Bolivian Altiplano.

CHAPTER I

A REVIEW OF THE LITERATURE

Development in Rural Areas

The problem of development in rural areas has been given concerted attention during the last few decades, and consequently, the amount of literature available reflects this concern. This review will focus on some of the main ideas and concepts which have proved useful in formulating and conducting this study.

Returning to Rostow's (1961) concern for the role of the agricultural sector in the process of development, we find that he sees three roles that agriculture will play:

1. Agriculture is responsible for increasing the supply of food which will feed the expanding urban populations.

2. Agriculture can earn foreign exchange capital by either directly exporting food to other countries or by reducing the necessity to import food from the outside.

3. Finally, agriculture can expand the supply of loanable funds to the modern sector by creating a rural demand for consumer or capital goods.

These three roles outline the importance of agriculture in relation to the other sectors of the country.

But, what do these roles suggest with respect to development policies and the consequent allocation of development funds? Should the agricultural sector be considered more important or less important than the other sectors? Or, should all sectors be treated equally?

Oshima (1967) states that development strategies proposed by economists have usually been in two forms: balanced and unbalanced strategies of development. The balanced strategies have looked at the development task as one in which all sectors of the society are assisted equally and advance together. The unbalanced strategies give priority to only one sector, usually industry, in the belief that growth of this sector will stimulate growth elsewhere in the society.

Oshima, however, proposes yet another strategy: the selective strategy of development. The balanced strategy, he says, spreads development resources too thin, while the unbalanced strategy neglects the needs of certain sectors. The selective strategy, however, involves the allocation of public expenditures to specifically chosen geographical areas, industries, institutions and individuals. This process of expenditure allocation has the advantages of both the unbalanced and the balanced strategies, but without most of their problems. Development resources go equally to all sectors of the society in proportion to the size and the needs of those particular sectors. The emphasis, however, is not

equally placed on all institutions, organizations, and individuals within each sector. Rather, selected parts are chosen for development funds with respect to their receptivity to the prospects of change.

Selectees in this system serve as "models", demonstrators, or teachers who transmit the innovations they have learned and the economic assistance they have received to other members of the sector. For example, in the agricultural sector, Oshima suggests that only selected villages, as well as selected individuals within those villages, be allowed to participate to the extent that they are willing to cooperate with the goal of the particular development project. Model villages with a progressive inclination would be set up to demonstrate new techniques in farming, while villages hesitant to adopt new ideas would be passed over.

In considering this selective strategy, the question which seems most crucial to its applicability is: Just how communicable is the process of modernization from one social unit -- individual, family, village, etc. -- to another? Will individuals, or entire villages, follow the examples of success they see in others? If they want to imitate progressive farming techniques, will they be economically able to do so? Singer (1963) believes they will not be completely free to imitate. The adoption of innovations which will increase farm productivity will be frustrated by what he refers to as a "vicious circle" of subsistence. Rural incomes are

low; most live at a subsistence level and the accumulation of capital is difficult or impossible. New innovations which might increase productivity (and therefore income) are extremely risky.

For example, a farmer may have managed to accumulate $100 over the years; the remainder of his production or earnings going to feed and cloth his family at a level just beyond that necessary for survival. Now, he can either hold that savings in reserve to insure himself and his family against a bad year, or he can invest it in chemical fertilizer (or other modern farming techniques) in the hopes that his profit will be even greater next year. If he chooses the former course of action, he will continue to farm in the traditional way, making little or no gain over the profits of previous years. If he chooses the latter, however, he may make a greater profit than he has in the past but he will have also used the "insurance" he has acquired against a bad year. As he perceives the situation, everything depends on the success of the new fertilizer; a risky alternative when failure means that he and his family might go hungry after next year's harvest.

Who, then, are the individuals willing to take the risk involved in development? Rostow, in specifying the preconditions for take-off, has called for an "elite entrepreneurial class" to initiate the necessary changes which must occur. Millikan and Blackmer (1961), similarly see

the creation of an "aggressive entrepreneurial group" as vital to development. The question one immediately asks is, what will motivate such a group of individuals? What will cause them to leave their traditional societies and seek a new way of life? What will make them feel that the conventional channels through which power and prestige are usually distributed are no longer satisfactory? Millikan and Blackmer feel that at least part of the answer lies in the creation of "material and psylological goods": goods which will provide adequate incentives for modernization. Rostow (1964) makes a similar point: ". . . the availability of cheap manufactured goods and farm equipment can be a powerful stimulus to high agricultural productivity." (1964, p. 128) Others agree that technical education and shifts to new methods and practices will not occur unless "it is made clear that acceptance of the training brings substantial and prompt economic rewards." (Viner, 1963, p. 17)

Most of the literature cited so far has implied that economic explanations are the key to development. The concept of an "aggressive intrepreneurial class", however, suggests an additional set of explanations: social and psychological barriers to development. Hagen (1962) suggests that the alternatives of innovation and risk, or non-innovation and security infrequently present themselves, even in developing countries. He says that recent empirical studies (he does not cite the studies) show that most people in developing countries do not live so close to the starvation

point that they could not risk allocating a portion of their income to capital investment. Not all of their income is spent trying to stay above a starvation level; part is often given up for the purchase of consumer products not related to the physical necessities of life.

It is worth noting that the number of alternatives available to a farmer increases as he breaks away from an exclusively subsistence mode of farming. At a subsistence level of production, the farmer does not have the economic means with which to exercise his innovative tendencies. However, when he begins to sell for profit in the urban markets, capital accumulation comes within his reach. He can now invest in his farm and make an even greater profit, but this is not the only alternative. He can also spend his new income on consumer items which have no obvious investment value. Or, if so inclined, he may even leave farming altogether and invest his future in the city. It is at his level of production that the alternatives begin to multiply, and the decisions made by each farmer are most greatly affected by the socio-psychological factors which Hagen has suggested.

The real problem, then, is partly non-economic; it is tied up in social and psychological considerations. Given sufficient technical information and assistance, innovation and the resulting changes in productivity could occur in the rural areas and would be only partially inhibited by strictly

economic limitations in the system. But for some reason change does not take place when the alternatives are offered. Technical information and assistance are frequently rejected while peasant farmers doggedly pursue agriculture in the manner of their fathers and grandfathers. They seem held fast in their traditional ways and the invitations of the modern world go unheard.

If part of the explanation lies in the socio-psychological character of traditional societies, we must now look at that character. In the next four sections a picture of traditional peasant societies is presented: their economic behavior; their consumption attitudes, values and beliefs; their skills; and finally their exposure to the mass media.

The Characteristics of Peasant Societies

DEFINITION OF PEASANT SOCIETIES

Peasant societies have been variously defined, either with respect to their economic characteristics or in terms of their relationships with a larger population. In the first instance, the definitions deal with occupational categories, production levels, and sophistication of technology. In the second, we find references to the types of relationships which exist between peasant populations and their urban counterparts.

Economically, peasants are cultivators of the soil who use simple farming techniques mainly for subsistence production.* (although other primary producers are not necessarily excluded from the peasant category). The phrase "subsistance production" is crucial here because it helps distinguish between peasants and farmers. Farmers view agriculture as a business enterprise. The aim of the peasant, however, is production for personal consumption. Even though the peasant may sometimes sell his crops for cash, he does so only because of his inability to meet his consumption needs within the traditional society. He does not sell in order to

*Peasantry has been defined in terms of economic characteristics by Firth and Wolf as follows:

> The term peasant has primarily an economic referent. By a peasant one means a system of small scale producers, with a simple technology and equipment, often relying primarily for their subsistence on what they themselves produce. The primary means of livelihood of the peasant is cultivation of the soil
>
> (Firth, 1956 p.87)

> By a peasant I mean an agricultural producer in effective control of land who carries on agriculture as a means of livelihood, not as a business for profit.
>
> (Wolf, 1957, p.1)

reinvest this income in farming. "The aim of the peasant is subsistence. The aim of the farmer is reinvestment." (Wolf, 1955 p. 454)

Peasants, in relation to the larger society, have been characterized by Redfield (1956 p.31) as:

> ...rural people who control and cultivate their land for subsistence as a part of a traditional way of life and who look to and are influenced by gentry or townspeople whose way of life is like theirs but in a more civilized form.

Similarly, Kroeber (1948 p. 284) states:

> Peasants are definitely rural -- yet live in relation to market towns: they form a class segment of a larger population which usually contains also urban centers, sometimes metropolitan capitals. They constitute part-societies with part-culture.

This existence in relation to urban centers is important in distinguishing between peasants and primitive tribal groups:

> They lack the isolation, the political autonomy, and the self-sufficiency of tribal populations; but their local units retain much of their old identity, integration, and attachment to soil and cults.
>
> (Kroeber, 1948 p. 284)

Peasants, unlike tribal groups, cannot exist without cities:

> Peasant points to a human type. It required the city to bring it into existence. There were no peasants before the first cities. And those surviving primitive peoples who do not live in terms of the city are not peasants.....The peasant is a rural native whose long established order of life takes important account of the city.
>
> (Redfield, 1953 p. 31)

The peasant is economically, socially, politically, and psychologically dependent upon the city. When he breaches his ties with subsistence agriculture by selling part of his produce, he is brought into a money economy over which he has little or no control. Social and political control is imposed on him from the urban seats of power. He is both drawn to the city by opportunities which do not exist in the rural areas and rejected from the city by his inability to cope with its complexity.

On the other hand, the necessity within the village unit for cooperation and mutual help sets up a strong system of interdependence. Each peasant must contribute his fair share in order that the village (and thus, each individual and family) is able to maintain a given economic level in relation to the larger society. Interdependence implies some degree of control over the behavior of each member of the group. If one member of the group is able to accumulate more wealth than the others, the other members perceive that they are being robbed of their fair share.* Therefore, negative sanctions are imposed to preserve the integrity of the community so that all the members can work effectively together.

Although limiting wealth and preserving an egalitarian level of consumption within the peasant community may promote cooperation and mutual help, it is dysfunctional with

*This point will be taken up later in this chapter with reference to the "image of limited good" (Foster, 1967).

respect to the peasants' role in the larger society. The peasant's production must not only serve to feed and clothe his family but, ultimately, must also contend with the food demands of the urban population.

ECONOMIC BEHAVIOR IN PEASANT SOCIETIES

In his economic relations, the peasant is simultaneously oriented toward two spheres of activity. On the one hand, he is an agriculturalist who must grow enough to feed himself and his family, while on the other hand, he is an entrepreneur who negotiates within the complexity of a larger society.

In the first instance, the peasant must decide between alternative uses of land and technology within the limits prescribed by his family and fellow villagers. He must heed the norms and values prescribed by his social unit because not to do so could mean economic failure.

Why is this conformity necessary? Wolf (1957) suggests part of the answer when he describes peasant farming as <u>labor intensive</u> rather than <u>capital intensive</u>; productivity is increased by increasing manpower (rather than by new methods or new technology), and this means that cooperation and mutual help among the members of a village are essential to the completion of most tasks. Seeding and harvesting must be completed within short periods of time. Housebuilding and road construction cannot be handled within the family

unit alone. Manpower sufficient for these tasks must be available and thus, relationships extending beyond the family are maintained.

Such extended relationships based on mutual help and exchange insure the economic security of all families within the village unit. In turn, however, certain restrictions are imposed. The villagers set limits on capital accumulation, spending, and investment. The political - religious system defines the boundaries within which members of the community must conform, and one of these boundaries controls conspicuous consumption on the part of villagers:

> Conspicuous consumption is geared to this communally approved system of power and religion rather than to private individual show... The corporate structure [of the peasant village] acts to impede the mobilization of capital and wealth within the community in terms of the outside world which employs wealth capitalistically... In the field of consumption, increases of expenditures relative to the productive capacity of the economic base are met with attempts to decrease expenditures by decreasing consumption. This leads to the establishment of a culturally recognized standard of consumption which excludes cultural alternatives." (Wolf, 1955, p. 458)

As we have seen, however, the peasant cannot isolate himself completely within his village unit. Wolf (1966) points out that feeding the urban population means that the peasant must operate within the framework of a larger regional or national market. In this market, prices and demands for agricultural products fluctuate over time

and production flexibility is absolutely essential to success. However, "although the larger open-network market [national and regional markets] requires continuous flexible responses from its members, the peasant response is apt to be inelastic." (1966, p.43) This inflexibility occurs because the peasant (like any other economic unit) is primarily interested in balancing his family budget; a goal which he can achieve in either of two ways:

> ... The first of these is to increase production; the second, to curtail consumption.
>
> If a peasant follows the first strategy, he must step up the output of labor upon his own holding, in order to raise its productivity and to increase the amount of produce with which to enter the market. His ability to do so depends largely on how easy it is for him to mobilize the needed factors of production -- land, labor, capital (whether in the form of savings, ready cash, or credit) -- and, of course, on the general condition of the market. (Wolf, 1966, p. 15)

As mentioned earlier, however, the ability to mobilize these factors is limited by the peasants membership in a village unit cohesively structured on a system of cooperation and mutual help. If production is to increase, the peasant must "... escape the demands placed on him to underwrite with ceremonial expenditures the traditional social ties with his fellows" (Wolf, 1966, p. 16) and, at the same time, check the flow of "funds of rent"* being siphoned off by traditional overlords. To the extent that this is impossible, the alternative strategy available to the peasant is

*Wolf (1966, p.9) defines funds of rent as "a charge, paid out as the result of some superior claim to his the peasant's labor on the land...regardless of whether that rent is paid in labor, in produce, or in money."

to curtail consumption:

> Such efforts to balance accounts by underconsumption go a long way towards explaining why peasants tend to cleave to their traditional way of life, why they fear the new as they would fear temptation... At the same time, such peasants will also support the maintenance of traditional social relations and the expenditures of ceremonial funds to sustain them. As long as these can be upheld a peasant community can ward off the further penetration of outside demands and pressures, while at the same time forcing its more fortunate members to share some of their labor and goods with their less fortunate neighbors. (1966, pp. 16-17)

The peasant, therefore, is economically in the middle between the demands for flexibility in national and regional markets and the inflexibility of the limits set by his village peers. It must be made clear, however, that although there is pressure toward economic homogeneity within the peasant community, there are still differences in wealth at any one time in a given village. Tax (1952 and 1957) and Carter (1964) both describe differences due to wealth with respect to office holding, marriage choice, and general prestige within the village. However, these differences do shift over time and tend to have a long range leveling effect.

CONSUMPTION ATTITUDES, VALUES, AND BELIEFS IN PEASANT SOCIETIES

In 1930, Robert Redfield (as paraphrased by Lewis, 1951) described a small Mexican town named Tepoztlan to be:

> . . . a relatively homogeneous, isolated, smoothly functioning and well integrated society made up of a contented and well adjusted people.
>
> (Redfield 1930)

Twenty years later, Lewis described the village in an entirely different light. He pointed to,

> . . . the lack of cooperation, the tension between villages within the municipio, the schisms within the village, and the pervading quality of fear, envy, and distrust in interpersonal relations.
>
> (Lewis, 1951)

The ability of peasants to cope with the modern world is bound up in the unique characteristics of their social groups; groups which stand apart from, yet mingle with, a modern way of life. What is the character of this uniqueness? Are peasants as Redfield describes them in Tepoztlan, or are they more correctly portrayed by Lewis? This section will deal with several "modal" personality characteristics found in peasant communities.

One of the hallmakrs of peasantry all over the world is poverty. Although an analysis of poverty and peasantry will not always point to the same people, it is worth noting that Lewis believes:

> . . .the culture of poverty cuts across regional, rural-urban, and even national boundaries... [there are] remarkable similarities in family structure, the nature of kinship ties, the quality of husband-wife, and parent-child relations, time orientation, spending patterns, value systems, and the sense of community. (1959, p. 16)

Lewis further characterizes the culture of poverty as:

> Living in crowded quarters . . . a high incidence of alcoholism, frequent resort to violence in the settlement of quarrels, . . early initiation into sex, . . .

> a strong disposition to authoritarianism, and a greater emphasis upon family solidarity -- an ideal only rarely achieved. Other traits include a strong present time orientation with relatively little ability to defer gratification and plan for the future, a sense of resignation and fatalism based upon the realities of their difficult life situation . . . , and finally, a high tolerance for psychological pathology of all sorts. (1964, pp. xxvi - xxvii)

Rogers (1965) uses the above quotation from Lewis as an impetus for constructing a "subculture of peasantry." This is the only synthesis of peasant characteristics to be found in the literature to date. The central elements of the subsulture are as follows:

1. Mutual distrust in interpersonal relations.
2. Lack of innovativeness.
3. Fatalism.
4. Low aspirational levels.
5. Limited view of the world.
6. Lack of empathy.

After reviewing the literature related to these characteristics, Rogers summarizes his proposed subculture:

> Peasant communities are characterized by a mentality of mutual distrust, suspiciousness, and evasiveness in interpersonal relations. They generally lack innovativeness in their reactions to ideas. Fatalism, a passive view of the world implying the feeling that an individual's efforts cannot determine his future, is widely reported as characteristic of peasant peoples. Social aspirations are desired future states of being, such as levels of living, social status, and occupation. A

> common observation by most students of peasantry is that their respondents have relatively low levels of aspiration. Peasants are characterized by a limited view of the world. They have a limited time perspective and are localite in their geographic mobility and mass media exposure. Localiteness is the degree to which individuals are oriented within, rather than externally, to their social system. Finally, peasants are distinguished by a relatively low empathy, defined as the ability to place themselves in the roles of others. (1965, p. 31)

In this section we will be discussing four peasant characteristics mentioned in Rogers' subculture: perceived limited good, inconspicuous consumption, and deferred gratification. Then we will turn to a study which attempts to relate traditional attitudes toward consumption to information seeking and innovative behavior . Language ability, empathy, and innovativeness will be discussed under Peasant Skills. Mass media exposure will be discussed in a separate section.

Perceived Limited Good

Foster (1967, p. 123) defines the image of limited good as the behavior of peasants which suggest that they,

> . . . see their social, economic, and natural universes -- their total environment -- as one in which almost all desired things in life such as land, other forms of wealth, health, friendship, love, manliness, honor, respect, power, influence, security, and safety exist in absolute quantities insufficient to fill even minimal needs of villages . . . In addition, there is no way directly within the [peasant's] power to increase the available supplies.

Peasants view their world as a "closed system". Resources beyond those of the immediate community do not exist. Therefore, the peasant perceives that any individual's gain occurs at the expense of others. As a result of this perceived shortage of "good", peasants react either by working cooperatively together for the welfare of the entire community or by resorting to extreme individualism, coming together only for the purpose of honoring reciprocal obligations. Individualism, seems to be the accepted alternative. Banfield, among others (Lewis, 1951 and Wisers, 1963) has testified to the presence of individualism and unwillingness to cooperate in peasant community affairs:

> I have all I can do to look after my own affairs. I do enough struggling in my business not to want to add to it in any political struggling . . . I'd have to spend all my time looking after other people's affairs . . . my own would have to be neglected. (Quoted by Banfield, 1958, p. 84)

In order to insure economic survival, however, members of the peasant community need to cooperate and work together (Wolf, 1957) The community and its place in the outside society must be safe-guarded and preserved in order that all members within its domain survive. Thus, the individual tendency to distrust others in the community -- a condition brought about by the "image of limited good" -- must be subordinated to the survival of the group. Desires to better oneself and one's family must be controlled. This control takes two forms: (1) an agreed-upon norm of behavior

and (2) a system of reward and punishment to insure compliance with that norm. (Foster, 1967, pp. 311-312) The agreed-upon norm is that one member of the community will not seek to better himself at the expense of the other members, a norm possible only where the availability of 'good' is seen as finite within the community. The system of reward and punishment, on the other hand, can take many forms: it can be a mild, almost joking reminder of a peasant's obligation to his community by other members, or it can be an overt aggressive attack. Whatever the case may be, the peasant is forced to conform with the status quo.

The peasant, therefore, finds himself in the position of preferring noninvolvement with his neighbors, of solely pursuing the welfare of his own family. Yet he is forced into a system of norms and values which sees his personal striving (in the same way he sees the striving of others) as a threat to the community as a whole. He is a captive of his own mentality ("limited good") working in the collective against himself.

Inconspicuous Consumption

What are the implications for individual-family behavior in a system of sanctions based on a collective belief in "limited good"? Foster (1967, p. 312) states two rules which guide individual-family behavior with respect to this system of sanctions:

> (a) Do not reveal evidence of material or other improvement in your relative position,

> lest you invite sanctions; should you display improvement, take action necessary to neutralize the consequences. (b) Do not allow yourself to fall behind your rightful place, lest you and your family suffer.

The peasant must not reveal his true strength to his neighbors. He must hide his wealth and obscure his achievements. And, should he gain wealth or achievement, he must then placate his fellow villagers through ritual expenditures, thus convincing them that he has no intentions of using his new position to the detriment of the village.

Wiser and Wiser (1963) quote one of their respondents to illustrate the peasant strategy of "inconspicuous consumption":

> Our walls which conceal all that we treasure are a necessary part of our defense...[they are]made of earth so that they might be inconspicuous...[and they are] dilapidate... [because it]makes it harder for the covetous visitor to tell who is actually poor and who simulates poverty ... Old walls tell no tales.

Erasmus (1961), on the other hand, suggests that ritual expenditure provides an alternative to "inconspicuous consumption". Speaking of industrialized and non-industrialized societies, he proposed the following:

> ... if a society is industrialized, recognition will be awarded for ownership and use of the goods and services available via that industrialization. If, on the other hand, a society is not industrialized and therefore the fruits of industrial production are less readily available, then recognition will be awarded for distribution or sharing of those goods and services which are available...
>
> (paraphrased by Fliegel, 1964)

The ideal peasant, then, does not demonstrate excess wealth or achievement. Should he not be able to avoid doing so, however, he must appear to be generous and willing to help those who need help. He must sponsor fiestas, sports activities, and other events, which benefit the community as a whole.

Deferred Gratification

Deferred gratification is defined as the postponement of immediate satisfaction in anticipation of future reward (Schneider and Lysgaard, 1953). Peasants are characterized as having a lack of deferred gratification. They seek immediate rewards as opposed to long range goals; prefer spending to saving; would rather have a quick profit than the less tangible rewards of long range investment; and generally opt for other short-range alternatives. High alcoholic consumption rates, although not applicable to all peasant societies, are often cited in support of this tendency in that drinking gives an immediate, and short-range reward. In this sense, however, we must view immediate gratification as more than a simple psychological disposition. It becomes a pattern consistent with the limited resources available in many peasant communities.

A Study of Consumption Attitudes

Fliegel (1964) devised an index of prestige standards which differentiate between an orientation to ownership

and consumption of goods and services, and an orientation to giving of time, resources, and energy within a traditional community. He hypothesized that those farmers who demonstrated an orientation to ownership and consumption would (1) have more contact with agricultural extension agents, (2) desire more years of education for their children, and (3) visit urban areas more frequently than those farmers demonstrating a "giving" orientation. Each of these three tendencies on the part of consumption oriented farmers would lead to greater adoption of modern farm practices.

To measure the prestige standards, Fliegel constructed the following series of questions:

> Every community has its leaders, men who are respected by their neighbors, who stand out above the others. Which of the following two statements <u>best</u> describes the <u>farmers</u> in this community who are most highly respected by their neighbors:
>
> A. 1. They have the larger and more profitable farms.
> 2. Or, they are generous, willing to help those who need help.
>
> B. 1. They are good hosts, know how to treat guests properly.
> 2. Or, they have the best tools and equipment on their farms.
>
> C. 1. They have the best cattle and get good results from them.
> 2. Or, they are friendly, kind, get along well with others.
>
> D. 1. They are usually the first in the community to contribute help or money if a need arises.
> 2. Or, they have a nice home with modern comforts.

E. 1. They bought a new machine for the farm this year.
   2. Or, they sponsored a fine festival this year.

F. 1. They sponsor sports activities such as soccer, bowling competition, and so on.
   2. Or, they are good businessmen and have developed profitable farms.

(Fliegel, 1965, p. 283)

The constructed index measured the degree to which each respondent was oriented to consumption or to giving as a standard by which he judged respected men in his community.

Reporting data from 142 farm operators in a small farm setting in southern Brazil, Fliegel found significant relationships between a consumption prestige standard and high adoption of modern farm practices mediated by frequent contact with agricultural extension agents. However, he did not find the same relationship between a consumption prestige standard and adoption when years of school desired for children and visits to urban centers were the mediating variables. The conclusion drawn is that a prestige orientation based on giving inhibits the seeking of information about new ideas and this, in turn, results in non-adoption of modern farm practices.

PEASANT MODERNIZING SKILLS

Modernization does not occur by simply creating a desire for change in people; a proposition especially true with respect to the peasant population. Another consideration must be weighed in the process of change. Will the

peasant possess the necessary skills to take advantage of his new alternatives, if social and psychological barriers to modernization are removed and economic problems outside of the control of the peasant are resolved? The answer at this time is assuredly 'no'. Lerner (1963) makes this point in reference to the ability of mass media to raise aspirations. He says that the introduction of mass media in developing countries,

> ...over the last decade has been producing the revolution of rising frustrations. The mass media have been ...raising their levels of aspiration.. No adequate provision is made, however, for raising the levels of achievement. Thus people are encouraged to want more than they can possibly get, aspirations rapidly outrun achievements, and frustrations spread. (p. 344 - 345

Language

One very important set of skills in the process of modernization are language skills; the ability to understand both the spoken and written forms of a country's primary language. Spoken language skills pose no problems in some developing countries because the vast majority of the people speak one common language. In many others, however, the presence of different languages creates almost insurmountable problems. In Africa and Asia the problem is great. In India 72 different languages are spoken. In certain countries in Latin America -- those with large Indian populations -- the problem also exists. The peasantry of Bolivia and Peru must be able to speak Spanish

in addition to their native dialects in order to deal successfully with the urban centers.

Even more difficult to attain, but just as important for modernization, is the ability to read a language. Lerner (1963, p.341) has said of literacy,

> (that it)... is indeed the basic personal skill that underlies the whole modernizing sequence. ...The very act of achieving distance and control over a formal language gives people access to the world of vicarious experience.

Literacy has been found to be related to mass media exposure (Lerner, 1963 and Deutschmann, 1963), empathy (Lerner, 1958), and innovativeness (Goldsen and Ralis, 1957) as well as other modernization characteristics. Rogers (1966) found literacy related to agricultural and home innovativeness, achievement motivation, farm size, trips to urban center, political knowledge, and sociometric opinion leadership.

Empathy

The creation of a change orientation in traditional peasant societies is crucial to the process of modernization. Central to developing this new orientation is the creation of empathy. Lerner's (1959) model of modernization designates empathy as the catalyst in the processes of urbanization, literacy, industrialization, national political participation, and use of the mass media. He defines the concept as "the capacity to see oneself in the other fellow's situation." (1959, p.50) Others have also defined empathy in a similar

way:

> The core idea of empathy is the ability to transpose oneself imaginatively into the feeling, thinking, and acting of another. Smith, 1966, p.19)
>
> ...The symbolic process by which a person momentarily pretends to himself that he is another person... (Coutu, 1951)
>
> It is what we mean when we say that man is adjustable, adaptable, able to alter his behavior to fit the situation, the social environment in which he finds himself. He develops expectations by taking the roles of others, or by making inferences about himself, or both. (Berlo, 1965, p.129)

Whiting (1967) reviewed these and other definitions of empathy and concluded that empathy can be historically looked at in terms of five basic conceptualizations: Empathy as (1) role taking, (2) interpersonal perceptiveness, (3) imaginative insight into the experiences of others, (4) the impersonal other, and (5) an instance of hypothetical thought. The common factor running throughout all of the various definitions is the ability to predict another's behavior. It must be remembered, however, that in order to predict behavior, some information is usually necessary. Without information the capacity to "put oneself in the other fellow's situation" will consist totally of imaginative inputs.

Recent measures of empathy have frequently consisted of items focusing on the ability of the respondent to role-play positions higher in the socio-economic hierarchy than his own (Lerner, 1958; Rao, 1963; Rogers, 1966). Recently,

however, Portocarerro (1967) has developed a measure which determines "the capacity to project oneself, know, and understand the role of the other", when the "other" includes persons both higher and lower than the respondent on the socio-economic ladder. This is an important step largely because it helps prevent incredulity on the part of the respondent.

Innovativeness

Innovativeness is defined by Rogers (1962, p. 19) as "the degree to which an individual is relatively earlier in adopting new ideas than other members of his social system." With respect to the lack of innovativeness in peasant societies, Rogers points out that ...

> ...To say that peasants are oriented to tradition is to state a truism, rather than to offer an explanation of their behavior. Of course it is true that peasants often follow a course of action established by their ancestors; in many cases they may not have full knowledge of alternatives. But even when innovations in agricultural production, in sanitation, health, and nutrition, and in marketing are presented to subsistence farmers, their record of adoption has seldom been enthusiastic. (1966, p.17)

Why are peasants as a group not more innovative? One reason is related to the psychological characteristics of peasants discussed earlier, another is related to their economic characteristics. Psychologically, peasants are prone to avoid novel and creative changes in their traditional manner of doing things.

Hagen (1962) looking at the psychological state of the innovator (the innovator is seen as being high in

anxiety and wanting in assurance of his worth), sees his origin in the "withdrawal of status respect".* Life in traditional societies is characterized by retreatism. Rather than confront obstacles to development, the basic tendency is to withdraw further and further into the accepted mode of behavior. However, at some crucial stage, says Hagen, the retreat is halted. This halt is largely due to counter-changes taking place:

> The turnabout from increasing retreatism toward creativity presumably occurs because of progressive changes in the personality of the fathers and mothers of succeeding generations. (1962, p. 217)

The fathers of the succeeding generations over-react to their inability to cope with the hardships of traditional life, setting higher standards for their children than they could possibly attain themselves. They deny their children the traditional channels for achieving status within the community (channels which are usually ineffectual in attaining status in the modern world.). The "withdrawal of status respect", then, creates a new generation which must go 'outside' of the traditional community in order to succeed. These are the individuals with "that deep religious sense of duty to achieve that is so often present in innovational personality." (Hagen, 1962, p.199)

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*Hagen defines "withdrawal of status respect" as ..." the perception on the part of the members of some social group that their purposes and values in life are not respected by groups in the society whom they respect and whose esteem they value." (1962,p.185). In our case, the group withdrawing the status respect is the village to which the potential innovator belongs.

MASS MEDIA EXPOSURE

> In the service of national development, the mass media are agents of social change. The specific kind of social change they are expected to help accomplish is the transition to new customs and practices and, in some cases, to different social relationships. Behind such changes in behavior must necessarily lie substantial changes in attitudes, beliefs, skills, and social norms. (Schramm, 1964, p. 114)

Schramm (1964) proposes three functions of the mass media in the development process: (1) As an information disseminator, the mass media can widen horizons or focus attention, it can raise aspirations and generally create a climate for development. (2) In the decision process, mass media can function to help indirectly change attitudes and values, to feed the interpersonal channels of communication, to enforce social norms, and to form tastes. Finally, (3) the mass media can function as a teacher, assisting in many kinds of education and training.

Theoretically, the mass media can reach traditional societies in any of its several forms: radio, television, newspaper, magazines, books, movies, pamphlets, etc. In reality, however, exposure to the mass media in rural areas is usually limited to only two or three forms, while extensive use is limited almost exclusively to radio. The immediate obstacle to printed media, of course, is the low level of literacy in developing countries. Few people read easily, and most read with difficulty or not at all. Furthermore, printed media presents a distribution problem. Newspapers

and magazines must be brought daily or weekly from the urban centers in which they are published and, before the media overcome this obstacle, the publishers of these media must consider the rural area as a viable market for the information and advertising that their products carry. Other printed media besides newspapers and magazines must also overcome the distribution problem.

The broadcast media, on the other hand, do not suffer from the problems of low literacy and distribution. Their exposure potential is, however, limited by the number of people who are able to afford receivers. In the case of television, this is a crucial limitation. But, for radio, the problem seems to have been overcome, or at least, become surmountable. Large numbers of people who cannot, or will not, buy magazines or newspapers regularly, or who cannot afford television receivers are able to afford the eight to ten dollars necessary to purchase a transistor radio.

Films, like the broadcast media and unlike the printed media, are not dependent upon the level of literacy. Like the printed media, however, they suffer from a transportation or distribution problem. In the case of popular films the burden is placed on the rural people to come to the urban centers if they wish to attend. In the case of instructional films, distribution becomes the problem of the sponsoring agency. In either case, however, easy availability is not the rule.

Radio, then, seems to be the most accessible medium in developing countries. This, however, is not to say that the other media are unimportant in the process of development. They are extremely important. We cannot hope to produce a literate population with wide radio exposure alone, nor can we replace the function of visual presentations with a strictly verbal medium. Rather, what we can try to do is to increase the probability of exposure to the other media by increasing exposure to a single media (and consequently creating general responsiveness to new information).

To date only five investigations of mass media exposure in peasant societies have been conducted in underdeveloped countries. Three of these studies (Lerner, 1958; Deutschmann, 1963; and Frey, 1964) have attempted to determine the various factors which are responsible for mass media exposure (e.g., income, education, and sex), or which are a result of mass media exposure (e.g., empathy, innovativeness, etc.). Two recent studies, however, have been concerned with the role of mass media exposure as <u>mediator</u> between various antecedent and consequent variables present in the modernization process.

Rogers (1966), using data collected on peasants in five Colombian villages, used partial correlation analysis to establish the extent to which mass media exposure acts as an intervening variable between literacy, education, social status, age, and cosmopoliteness; and selected indices of

modernization. Modernization was measured in terms of empathy, innovativeness, political knowledge, achievement, and aspiration. The model used by Rogers, based on the work of Lerner and Deutschmann (mentioned earlier), follows:

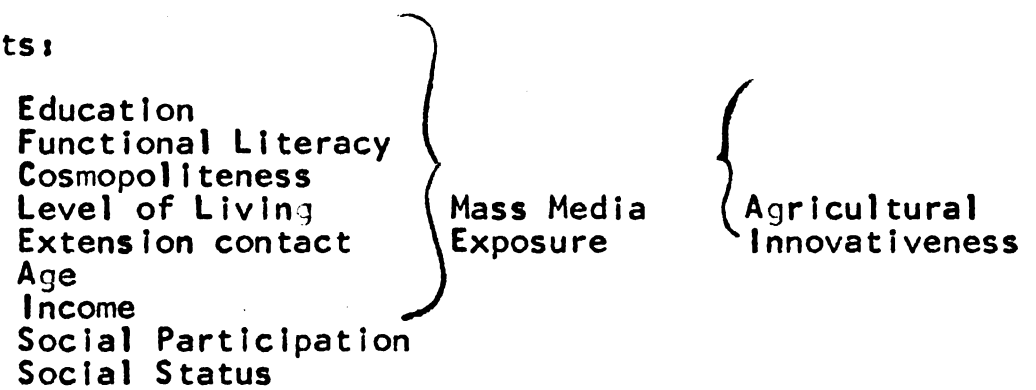
ANTECEDENTS	PROCESS	CONSEQUENCES
Functional Literacy		Empathy
Education		Agricultural and home innovativeness
Social status	Mass media exposure	Political knowledge
Age		Achievement motivation
Cosmopolliteness		Educational and occupational aspirations

Note: The terms "antecedents" and "consequences" are used here in the sense of a probable time order, but not necessarily in the sense of cause-result. (Rogers, 1966,p.616)

Significant zero order correlations were found between mass media exposure and all antecedent and consequent variables. However, to test the assumption that mass media exposure intervenes between certain antecedent and consequent variables, Rogers restricted himself to a study of the relationships between the set of consequences and functional literacy. He found that statistically controlling for the effect of mass media exposure (using partial correlations) reduced the correlations between functional literacy and the five consequent variables. This suggests that the relationship between functional literacy and the consequent variables can in part be explained by the relationship between these variables and mass media exposure. Taking the relationship

between functional literacy and empathy, the implication is that changes in empathy associated with changes in functional literacy are stimulated by exposure to the mass media; mass media in this sense is functioning as a catalectic agent between the two variables. The same implication applies to the relationships between functional literacy and the other consequent variables (e.g. agricultural and home innovativeness, political knowledge, etc.).

Among other things, a study reported by Keith, Yadav, and Ascroft (1966) reported additional evidence that mass media exposure acts as an intervening variable in the modernization process. Using data collected in three different developing countries (Columbia, India, and Kenya) the authors found that mass media exposure intervened between agricultural innovativeness and the following list of antecedents:



Similar findings have also been reported for relationships between health innovativeness, achievement motivation, education aspirations, and the above antecedents.

These two studies, t en place mass media exposure in a role similar to that of Lerner's (1958) "mobility multiplier":

> The media spread psychic mobility most efficiently among peoples who have achieved in some measure the antecedent conditions of geographic and social mobility." (p.55).

A man who has achieved some degree of geographic and social mobility must finally work out a personality for himself which reflects his new environments; he must create psychic mobility. And, one intensifier of psychic mobility is mass media exposure.

However, for the mass media to simply increase psychic mobility is not enough. Psychic mobility, or any kind of mobility, is accompanied by a seeking of something better and must be balanced by actual attainment of given wants. Lerner (1963, p. 33) has defined a want-get ratio which indicates the relationships between aspirations, achievements, and satisfaction with the way of life as follows:

$$\text{Satisfaction} = \frac{\text{Achievement}}{\text{Aspiration}}$$

He clarifies this ratio by saying:

> This formula alerts us to the proposition that an individual's level of satisfaction is always, at any moment of his life, a ratio between what he wants and what he gets, i.e., between his aspirations and his achievements.

The mass media facilitate modernization as long as the rising level of aspirations they create does not outrun the society's ability to fulfill these aspirations by increasing levels of achievement:

> In the remote villages of Egypt, when the government inserted radio into the community, nothing else changed in the dairy round of

> life -- except the structure of expectations. ...The mass media have been used to stimulate people..by raising their level of aspirations -- for the good things of the world, for a better life. No adequate provision is made, however, for raising the levels of achievement. (Lerner, 1963, p. 344).

Thus, people are encouraged by the mass media to want more than their personal skills, or the prosperity of their society at large, will allow them to get, The ratio of achievements to aspirations increases and frustration results. The government therefore, must act to see that aspiration do not rise too far above the level at which they can be fulfilled. Education and training, enhancement of productivity, and other areas under the jurisdiction of government policy which affect the ability of people to work for something better must be dealt with simultaneously with the stimulation of wants.

The role of the mass media in development has also been considered by Rao (1963). He observed two villages in India; one which was solidly in the traditional stage, and one which had taken significant steps toward modernization. Although the villages were similar with respect to size, location, and social composition, they differed in their capacities to cope with the modern economy. One was still entrenched in the systems of barter and occupational castes, while the other was beginning to break away from the traditional structures. The modern village was beginning to change, says Rao, primarily due to the existence of a new

road going through the village. The road gave the people of the village a link with urban life. When a small industry located in the village, the people had already had enough contact with the world outside of the village to ready them for the changes which had to follow. This contact with the outside world had the initial effect of opening the village to further contact, and continued contact enhanced the process of change occuring within the village. Interpersonal channels of communication became more fluid, while mass media acted to feed these channels.

> Communication, coming from outside, triggers change in a hitherto self-sufficient, closed economy. The information conveyed, if it is of a kind that indicates an economic or political opportunity, is first seized upon by one or more member of the elite... Gradually, however,...it filters through to the lower echelons. (1963, p. 111).

Desires for economic betterment are aroused and a stress situation is created. Old ways are set in opposition to new, and "neutral" sources of information are sought to resolve this conflict. Here communication plays another role:

> ...communication creates the stress by creating an awareness of the possibility of change and some of the possible reqards; and it is communication again which will provide the necessary information to release the tensions. (1963, p.112)

Communication thus acts in the dual role of stimulating achievement in a traditional setting (the "mobility multiplier" of Lerner) and of "smoothing" change as it occurs. Communication creates a personality receptive to the

changes occuring in the economic, political and social spheres, while at the same time providing the information necessary for adjusting to these changes.

CHAPTER II

A DESCRIPTIVE MODEL OF THE URBAN-RURAL COUNTERFLOW

The review of literature presented in the previous chapter provides a general description of the different emphasis given to the problems of growth and modernization in the rural areas of developing countries. The focuses of economics, anthropology, and communication each provide unique and insightful approaches which, when taken together, give a more comprehensive picture of rural sector development than does any one focus by itself.

These various approaches were used as guides for selecting variables which seemed most useful in understanding the process by which growth and modernization occur in rural areas. Using these variables, a suggestive model was created to help in describing the process. The model is composed of variables related to (1) the environment of goods and messages created by the urban-rural counterflow, and (2) the economic, socio-psychological, demographic, and communication characteristics which predispose the reaction of the rural population to urban based goods and messages.

The Environment of Goods and Messages

The environment of goods and messages is created by the urban-rural counterflow and its exact character can vary over time with respect to quantity and mix. If the quantity of goods and messages is increased, the environment is enriched by that increase; if the mix of goods and messages is changed, the character of the environment is altered to reflect that change.

Generally, there are two types of goods available in the environment; (1) consumer goods such as clothing, household items, bicycles, flashlights, etc., and (2) production-investment goods such as fertilizer, plows, seeds, hoes, and other farm equipment or tools. The classification of all goods into these two categories may sometimes be difficult (e.g., bicycles which are used both to carry products to market and as a means of personal transportation), however, most items fit into one or the other with relative ease.

It should be pointed out that the availability of goods (consumer and production-investment) refers to more than the quantity of a particular good available; it also includes the dimensions of quality, price, and credit. For example, it is not enough to know only that fertilizer is available in a certain quantity in the rural areas. One must also know how well suited that fertilizer is to the growing conditions in the area, how much it costs, whether or not this

cost is low enough to encourage its widespread use in the particular area, and finally, how much of the cost of the fertilizer can be deferred until the gains from its use can be realized.

Messages available in the environment are classified into four types:

1. Messages about the availability, desirability, and utility of consumer goods. Mass media advertising is the prime source of these messages but other sources are also used. Messages presented in the non-advertising content of the mass media which indirectly refer to consumption; and inter-personal sources such as vendors, other consumers, and friends are a few of these sources.

2. Messages about the availability, desirability, and utility of production and investment goods. The sources of these messages are agricultural extension agents, vendors of agricultural equipment and supplies, other farmers, government literature, radio farm forums and other farm programs, and the miscellaneous content of the other mass media which refers to production and investment goods. Technical training courses in agriculture provide a source of information as does interaction among peers.

3. Messages about the demand conditions of the urban food markets. These messages deal with information which tells the farmer what quantities of which products he should produce, what prices he can expect for those products,

where those products can be sold, what kind of distribution is available for those products, and many other factors related to the marketing of food products.

4. General information from the environment. These are messages not specifically related to consumer, production-investment goods, or the condition of the market, but are messages which contribute to the general information of the rural population. This is partly a residual category which, although not the specific concern of the present model, is nevertheless an important source of development information.

The availability of messages can be expressed in terms of three dimensions similar to those used in describing the availability of goods. Messages are made available in certain quantity, with varying content, and at different costs. Turning to the example of fertilizer again, the quantity dimension prompts one to ask how many messages about the availability, desirability, and utility of fertilizer reach the rural sector? The content dimension is concerned with what these messages say about fertilizer, while the cost dimension points to the price paid by the receiver for these messages.*

* The cost of a message may be expressed in terms of money spent directly for the purchase of the message (i.e., the cost of buying a newspaper or owning a radio) or in terms of the time and effort expended to obtain the message which can be reduced to a dollar cost (i.e., time spent talking with extension agents, taking technical courses, traveling to urban centers. These can all be assigned a cost vis-avis an equivalent amount of time spent earning marginal income from additional work of various kinds.). Also, costs can be reckoned from the inputs required in the initial message dissemination.

The State of the Individual-Social System in Rural Society

To the extent that the individual-social system in rural society remains constant and unchanged over time, it can be said to be more or less closed to influences originating in the larger system (the environment). When it does change, however, the character of the response is determined, in part, by the prior state of the individual-social system and, in part, by the type of influence impinging upon it. The state of the individual social system can be described in terms of its economic, socio-psychological, skill, demographic, and communication characteristics.

ECONOMIC CHARACTERISTICS

Rural peasant farmers in Bolivia live at or near subsistence level, owning few of the consumer goods available to their modern city counterparts. They live in small adobe or wood houses; own either a bicycle, a radio, or a sewing machine, but rarely all three. They cook on kerosene stoves, and wear hand-sewn or inexpensive manufacturer clothing. They own small plots of land which are farmed much the way land was farmed during the Middle Ages. They use animal or human driven plows, tools fashioned of rough iron, and fertilizer manufactured by their livestock. They produce largely for their own consumption and that part of their produce which is taken to market is usually sold at little profit.

Of the economic characteristics of the peasant farmer, the following are some of the more important:

1. Ownership of consumer goods. Ownership of consumer goods reflects historical behavior toward the availability of these goods in the environment. If individual styles or patterns of consumption can be extracted from the present ownership, these patterns will provide a reasonable prediction of future consumption. And, if these patterns change over time, the changes may be traced to other variables in the system. Furthermore, the rapidity with which an individual-social system adopted new consumer goods in the past will aid in predicting future innovativeness in the area of consumer good adoption.

2. Ownership of capital investment goods. The ownership of capital investment goods can similarly be viewed in terms of patterns of consumption and innovativeness.

3. Agricultural Productivity. Productivity can be measured by the quantity of food and livestock produced during the year plus the quantity held in reserve. Even a measure as gross as size of farm can be used in measuring agricultural productivity

SOCIO-PSYCHOLOGICAL CHARACTERISTICS

Most of the socio-psychological characteristics have been discussed earlier (see Peasant Attitudes, Values, and Beliefs). Therefore they will merely be cited here.

They fall into two classes:

1. Those concepts which act primarily through group pressure to restrict individual behavior. They are inconspicuous consumption, image of limited good, and mutual distrust.*

2. Those characteristics which arise within the individual due to family training or reactions to his present condition. They are achievement motivation, satisfaction, educational aspirations, and innovativeness.

SKILLS

Some of the relevant skills are education, technical training, functional literacy, and verbal skills. Empathy has also been classified as a skill in that it provides the individual with cognitive flexibility.

DEMOGRAPHIC CHARACTERISTICS

This category includes age, sex, and geographical ability.

COMMUNICATION BEHAVIOR

Running parallel to the environment, communication behavior is of three types:

1. Exposure to messages about consumer goods: Advertising exposure, conversations with vendors, other farmers,etc.

* This study has not examined dyadic or relational variables, or structural variables which also contribute to the system's functioning.

2. Exposure to messages about production and investment goods: Extension agents, vendors, government literature, etc.

3. Exposure to messages not specifically related to consumer or capital investment goods. The important concepts here are change agent, opinion leader, cosmopolite sources, and others which relate to interpersonal communication. Also important is the level of exposure to the different mass media; radio, newspapers, magazines, books, etc.

The Receptivity of the Urban Sector

The purpose of the present model is to describe the flow of goods and information from the urban sector to the rural sector (the counterflow). However, the flow from rural to urban will also be briefly mentioned.

Goods and messages from the rural area do not flow uninhibited into the urban area but are facilitated or impeded by (1) the character of the urban demand and (2) the condition of the channels of exchange which supply this demand. The urban demand is for food goods with which to feed its population, for labor with which to run its industry, and for information about the rural sector's ability to supply both food and labor. Furthermore, there is a demand for information about the goods and messages needed by the rural area to insure its development, and thereby, its ability to meet all demands placed upon it by the urban sector.

Awareness of the character of the urban demand, however, is not a sufficient predictor of the ease with which goods and messages will flow from the rural to the urban areas. One must also know the condition of the channels through which this flow will move. What are the transportation and communication facilities connecting the two sectors? Are they efficient? Are there too many intermediaries? Is there too much loss due to spoilage in the case of goods, or due to inactive gatekeepers in the case of communication?

The Interrelationships of Variables in the Model

Figure 1 shows the interrelationships of all variables in the model. Several characteristics of the model are worth noting:

1. All of the variables in the model are in some manner interrelated; that is, changes in any one variable, or set of variables, will affect all other variables.

2. Some variables are more highly related to certain other variables in the system than to others. Which variables are strongly related to which other variables is ultimately the subject of empirical study. However, intuition and previous research would suggest the following strong relationships as examples: (b) consumption patterns of consumer goods with the availability of consumer goods, and messages about them, (b) the exposure to messages about consumer goods and income, (c) production levels with the availability of capital investment goods, and messages about them,

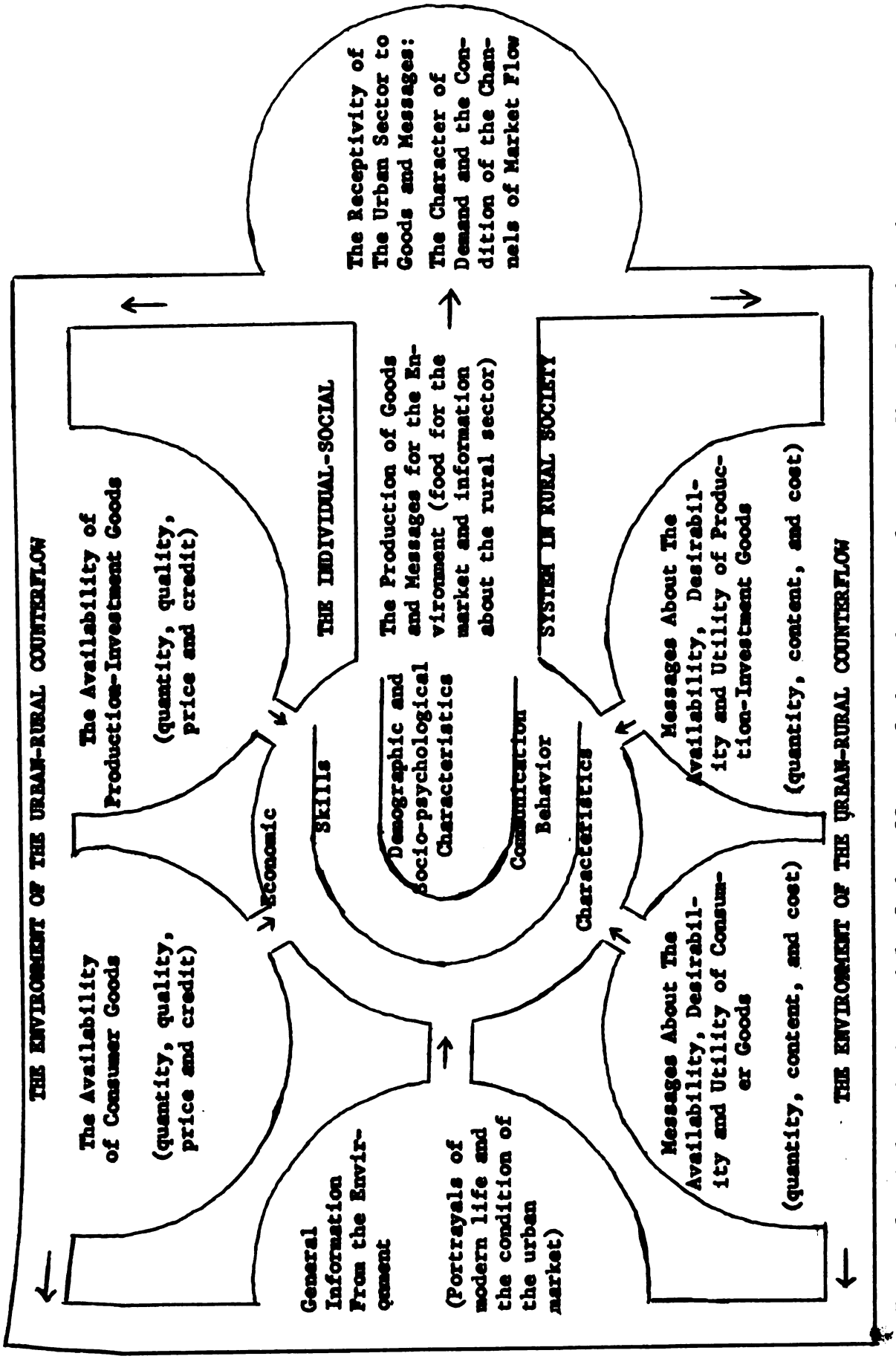


Figure 1. A descriptive model of the effects of the urban-rural counterflow of goods and messages

(d) the consumption of capital investment goods, and exposure to messages about capital investment goods. Various socio-psychological characteristics should also relate strongly to each other (e.g., empathy, innovativeness, cosmopoliteness, etc.)

3. The state of the individual social system will, at any point in time, be a function of both internal changes within the system and changes in the environment. Future changes in the state of the individual-social system will also be a result of both changes which take place in the environment and the prior state of the individual-social system.

4. In response to changes in the environment, changes will occur most rapidly in those areas of the individual-social system which appear toward the outside of the circle (economic skills and communication) and less rapidly in those areas which appear toward the center (demographic and socio-psychological).

The Model and Data Collected

Data for the present study were not collected on all of the variables mentioned in the model. The model was developed as a consequence of re-conceptualizing the initial guidelines of the exploratory study being reported here. Also, to have undertaken such a study would have required an investigation of far greater scale than available resources

could meet. Instead, data were collected on a subset of the variables considered thus far. It was intended that this set of variables would provide the basis for an exploratory study of some of the relationships implied in the model and, at the same time, help in singling out some of those variables which are most likely to be important in the entire process.

The variables chosen for study are discussed in detail in Chapter III. Except for a brief description of the availability of consumer and production-investment goods and the availability of mass media, all of the variables studied are a part of the individual-social system in rural society. The data collected from respondents in two rural communities (details on these communities will be given in Chapter III) were related to their communication, consumption-production, and modernizing behavior as it relates to the parallel processes of modernization and development.

CHAPTER III

METHODOLOGY

The Research Setting

BOLIVIA AND THE BOLIVIAN ALTIPLANO

Like most other countries in Latin America, Bolivia is sharing in a continent-wide process of social change. She has taken her position among the changing nations largely as a result of the Revolution of 1952. This revolution, unlike many which have taken place in Latin America, seems to have had a real impact in changing Bolivia's social order.

One of the most significant outgrowths of the revolution was the emergence of the Indian campesino as a viable political force. Land reform, which was instituted in 1953, and a continuing breakdown of the rigid, caste-like social order of Bolivia came about in recognition of the newly found power of this group. The campesino, in effect suddenly found himself the owner of lands he had once cultivated for someone else. He found the government generally interested in him and willing to assist his efforts to increase his level of productivity. Broader economic

participation at all levels of Bolivia's struggling economy was becoming possible for the campesino. The effects of the old order were not by any means gone, but the slow process of social change had at least gotten underway.

The changes which have been taking place during the past sixteen years have not altered the fact that Bolivia is still predominately an agricultural country. However, changes in agriculture have been taking place. Prior to the 1952 Revolution, the campesinos lived at near subsistence level, and most of what they produced was siphoned off by the land-owning patrones. After the revolution, however, they became independent producers and this new independence had the effect of initially increasing the level of personal food consumption, and eventually raising production to a level high enough to give the campesino a salable surplus.

Along with this new salable surplus came an increased demand for goods. The role of barter as a form of exchange decreased and the consumption of urban manufactured goods dramatically increased. The number of rural fairs increased to meet the new demands for manufactured goods and the campesino was slowly beginning to participate in the nation's larger economy.*

* For an elaboration of this point, see Ronald J. Clark (1967), "Land Reform, Economic Participation of the Peasantry and Economic Development," a paper written for the Inter-American Committee for Agricultural Development, La Paz, Bolivia.

The Bolivian Altiplano is one of the principal food-producing areas in the country, and on it live about one third of the country's population. It is inhabited largely by Aymara speaking Indians who farm and raise livestock on the land. Their surplus contributes a substantial portion of the staple food products which feed the urban population of La Paz, Bolivia's capital city. This large mountain plateau is thirteen to fourteen thousand feet above sea level. The land is extremely rocky, alternately flat and precipitous, which makes agriculture without the intelligent use of technology a far less fruitful endeavor than in other, more well-endowed, areas of the world. Despite these limitations, however, the estimated one million Aymara who work the land manage to produce potatoes, tubers, vegetables, meat, and several varieties of grain for the urban food market.

THE MEDIA ENVIRONMENT OF THE ALTIPLANO

1. Radio. Radio is the most widely available mass medium in the Altiplano. Although there are 15 stations broadcasting from La Paz, only two of these are widely heard by the campesinos in the Altiplano. The others can be heard only by those with more powerful receivers. Of the two stations available, one is commercially operated, the other religious.

Radio Mendez, the commercial station, is by far the more popular of the two. Having 10,000 watts of power, it broadcasts for 20 hours a day to most areas within a hundred mile radius of La Paz. During a given weekday, approximately 15 of the total 20 hours of broadcasting time are devoted to music of popular, classical, and indigenous types. The remaining five hours are about equally divided between programs of an informational or educational nature, news, drama, other non-musical entertainment of various kinds, and religious presentations. For the Aymara-speaking population of the rural areas, there are only three hours of programming in the early morning.

During a personal interview,* one of the two owners of the station commented on the rural audience of Radio Mendez:

> The Indian is apparently becoming an important consumer of transistor radios. Although it is difficult to find out exactly how many transistor radios are in the Altiplano, I would guess at least thirty to forty thousand.
>
> ...Like other stations in La Paz, we originally began broadcasting only in Spanish. However, my associate, Sr. Mendez, came up with the idea of doing programs in Aymara early in the morning. This is a time when the city people would ordinarily be asleep and very few would be listening...The Aymara program usually consists of folk music... we go out to the Indian villages

* These exerpts are based on an interview conducted by Dr. Donald Henley and Dr. R, V, Farace of the Michigan State University. The interviewee was the director of Radio Mendex, Mr. Raul Barragan.

> and tape record much of their music...The Indians were very happy to hear programs in their language.
>
> ...The Indians are our best customers. They come to Mendez to place announcements for fairs, to dedicate music, to announce birthdays, etc. ...and they pay in advance for these spot announcements. The Indian is no credit risk. ..In general, we often have problems selling advertising time, but with the Indian programs we can usually count on a full schedule of paid-in-advance advertising to carry the programs. This amounts to about $b.500 ($45.00) per day, and is about one-quarter of our total advertising revenue.

About those advertisers directing their messages to the rural market:

> ... Small shopkeepers also advertise items usually bought by the Indians. We too sell items to the Indian. We sell records of Indian music, fertilizer, etc., for the Altiplano farmers. These products we advertise on our station, and many of the Indians mention having heard the advertisement when they come to buy the products.

Mendex also prints a monthly newspaper directed specifically at the Altiplano Indian:

> ...We advertise the newspaper on our raido station. The paper carries a number of different items which might be of interest to the Indian...there are lessons in literacy, information on the use of fertilizers and other farm equipment, health tips, and even a special comic strip about an adventuresome campesino named Pancho Negro. We also publish pictures and stories honoring successful people in different communities...Indians usually buy the paper in quantity (50 to 100) and then they are resold or distributed within each community. Our total circulation is about 20,000 copies per issue. ..So, we are getting into a completely new field. We don't say t is is the best newspaper, but we doubt if anyone else sells near this many copies.

With respect to their radio and newspaper policy:

> . . .We have no station policy re: the government, but we generally try to keep things calm during tense situations, e.g., during the turmoil with the minors we were careful to present only quieting news... we always try to quiet things...occasionally, we discuss the astronauts in a simple way.

The other station which broadcasts to Indian areas, San Gabriel, is owned and operated by the Franciscan Order of Catholic Priests. It broadcasts sixteen hours a day with a one kilowat power and has a radius of approximately 150 miles. Of the total broadcast time, only about seven hours are devoted to music. The remaining nine hours are divided as follows:

General news: 1 hr. 50 min. (approx.)

Farm/Technical information: 1 hr 40 min. (approx.)

Literacy trainin : 3 hrs. 30 min. (approx.)

Religious training: 15 min. (approx.)

Misc. programs of culture and information:

1 hr. 45 min. (approx.)

The program is much more oriented to the needs of the rural Indian than is the program content of Mendez. Furthermore, more than 60% of the broadcasts are in Aymara.

Father Pruss, Director of San Gabriel, feels that the Indian has made great progress within the last decade, and hopes that San Gabriel is partially responsible for that progress. He realizes that with more music and entertainment programs his station might capture a larger audience than it now has, but he is convinced that those who do listen

represent a more progressive segment of the Indian population. When asked why he does not solicit more advertising to support San Gabriel's programming, he responded by saying that he has no bias against commercializing the station, but finds it difficult to convince advertisers that he is reaching a significant portion of rural population. At present, less than 15% of San Gabriel's programming is supported by advertising from the commercial sector and unlike Radio Mendez, the Indians do not extensively use this station for their personal announcements.

2. Other Mass Media. The availability of mass media other than radio is sparse on the Altiplano. There is no television in Bolivia, and the nearest movies (with the sole exception of training films) are available in La Paz. Magazines are rarely found outside the city. There is one newspaper printed by Radio Mendex (mentioned earlier) which has rather widespread circulation, but most of the dailies published in La Paz are not distributed in the countryside. Books are not widely available, although some children's books are sold in one or two of the larger rural fairs.

THE ENVIRONMENT OF GOODS: ALTIPLANO FAIRS

The rural fairs of the Altiplano region are one indication that two overlapping ways of life still exist in Bolivia. There are clear signs that the barter economy pre-lord reform days is slowly being replaced by a newer commercialism. Aging Aymara women still sell traditional remedies

for the grip, llama fetuses for luck, and multicolored candies for the favor of the "Earthmother". An arroba of potatoes can still be traded for seven eggs, one kilo of beef, or two to three dozen oranges. Alongside this traditional economy, however, is a growing economy of flashlights, cameras, bicycle parts, radios, and even some simple cosmetics. The older sellers of 'home' remedies are being replaced by vendors of Alka Seltzer and aspirins. The sale of agricultural products has moved to the side streets and manufactured goods are becoming the central focus of the fairs. The fair system is in a state of change which will eventually have an impact on the development of the entire rural area.

Although the exact number has never been determined, there are anywhere from fifty to seventy-five rural fairs held weekly in the Altiplano region. An average fair may attract from 200 to 400 people during the day it is being held. A small fair may attract as few as fifty, while a large fair may draw upwards of a thousand people. Almost half of the non-food goods sold in the fairs are clothing, a third of which are handmade and two-thirds of which have been manufactured in the urban areas or imported from outside of the country. Of the remaining goods, no one category accounts for a significant portion: there are hardware items, bicycle parts, seeds, insecticides, patent medicines, kitchen utensils, radios, jewelry, and numerous sundry items such as peas, pencils, paper, combs, mirrors, needles, and toys.

Many of these goods are imported from all over the world. There are locks, saws, pocket mirrors, watches, enameled cups, and knives from Germany. From Japan there are bicycle parts, dishes, radios, and cameras. From Czechoslovakia there are tools and kitchen utensils. Clothes, batteries, and pens come from the United States.

The mark-ups on the goods in the rural fairs are not as great as might be expected, however, they are still more expensive here than in the city. One reason for these high prices is the large numbers of sellers with relatively small inventories. Each seller buys a few items in the city; perhaps three or four flashlights, a few bicycle parts, a couple of screwdrivers, and maybe a hammer, which is not sufficient enough quantity to warrant a wholesale discount. The goods are then loaded into boxes or bundled into blankets and from there go with the seller into a truck filled with other sellers and other boxes and bundles going to the fair. On the average a given seller will visit two or three fairs a week. Some however, visit as many as six or seven. If it were possible to reduce the number of sellers, and at the same time increase the inventory sizes so that wholesale discounts could be gotten, then prices might be reduced. To the extent that this is impossible, the rural peasant will continue to pay more than those who live in the city.

THE VILLAGES STUDIED

Two villages in the Altiplano Province of Manco Kapac were chosen for study. Two guidelines were followed in selecting the villages: (1) Both villages should have Peace Corps Volunteers and a Community Development Village Worker living in the communities. This, it was decided, would help in establishing interviewer rapport with the respondents in these villages. Also, (2) the two villages should differ in respect to their isolation from both the urban center of La Paz and the rural market system which surrounds it. Access to the main routes of transportation was the initial criterion used to insure this difference, however, a count of the number of people in each village having gone to La Paz during the previous week was done in order to substantiate this difference.

Both of the villages selected are situated in the fertile and prosperous area surrounding Lake Titicaca and, therefore, cannot be taken as truly representative of the entire Altiplano region. San Pablo de Tiquina was the non-isolated village chosen, and Siripaca was the isolated village.

San Pablo De Tiquina

San Pablo has a population of approximately 600 persons (although no exact census data are available). It is located on Lake Titicaca at the Straits of Tiquina, 30 miles (or 2 hours by car) from La Paz. Cars, trucks and buses

traveling from La Paz to the tourist-religious city of Copacabana must stop at San Pablo and be ferried by sail boats to the road on the other side of the Straits. Many of the people living in San Pablo own or operate these ferries. Recent increases in tourist traffic across the Straits have reduced the general importance of agriculture as a means of subsistence for many villagers.

Increased traffic through San Pablo has also meant increased contacts with the outside world. The people who travel through the village are generally the urban elite. They bring cameras and radios, wear western clothes, and arrive by bus or private car. These travelers represent an urban way of life that the people of San Pablo have only recently discovered. Important also to the residents of the village have been their travels outside of the village. Some villagers work in the near-by mines, leaving their families and farms for extended periods. Many of these people visit the rural fairs to buy goods, while others travel to La Paz either to sell agricultural products or to shop in its many stores.

San Pablo has always been a "free community": it has never been under the authority of a hacienda. The villagers have been free to work their own lands, and many have done so. Or, they have left agriculture for other occupations in the mines or on the ferries. This freedom of

mobility, in turn, is accompanied by an independence of spirit which makes community cooperation difficult. The two Peace Corp Volunteers working in the village found the villagers unwilling to engage in community projects. Attempts to muster a community effort directed at the growing number of tourists passing through the village each year were found to be nearly hopeless. A public latrine was needed, but no one would help build it. Support for a community kitchen (to operate during the fiesta season) never gained enough momentum to materialize. Purchase of a fiberglass ferry with two outboard motors was proposed, but the boaters would not pool their resources to make the purchase.* Interactions within and outside the village are characterized by self-interest and competition: "What's in it for me?," is a common phrase. Villagers who have worked in the mines tend not to identify with the community any longer. The owners and operators of ferries work together to keep outsiders

* The result of this lack of community spirit was that two enterprising young men in the village purchased the new ferry and set up competition with the boating syndicate. Charges of unfair competition were voiced, the Peace Corp Volunteer's house was stoned because he originally suggested the idea, and finally the ferry was allowed to work the Straits only under an agreement requiring that the owners not bring it into direct competition with the other boats. This meant that the new ferry could be used only in a system of 'turns' and not allowed to carry more than one car or truck at a time. They did, however, allow the ferry to be run during rough water or windless hours when the sail-powered boats could not be used.

as well as one another, from taking over all the business. Those whose livelihood is dependent totally on agriculture are usually the poorest and they look on the others in the community as disrupting their traditional way of life. The community is largely disunified and composed of factions.

Siripaca

Siripaca has a population of about 200 persons and is located on Lake Titicaca about four hours from La Paz. In contrast to San Pablo, the village is off the main road and relatively isolated from other villages in the area. A peasant going to Siripaca from Copacabana must take one of the two trucks which leaves his village each week and ride it to a crossroad about a mile and a half from the village. From there he must either go on foot or, if he is prosperous, ride his bicycle along a steep and badly repaired dirt road which twists its way down the mountainside to the village on the lakeshore below.

The village is located on a stretch of fertile land which until 1953 was part of a hacienda. After many years of working under the authority of a benevolent landowner, the people are accustomed to taking orders and working together toward a common goal. The two Peace Corp Volunteers in the community are treated with unusual respect and find the villagers extremely easy to mobilize for community efforts. In contrast with San Pablo, cooperative movements are accepted and undertaken readily and with little questioning. Village

meetings are almost unanimously attended by all members of the village, and new ideas are sometimes almost passively accepted. It must be emphasized, however, that this community cooperativeness appears to be more a remnant of the subservient role that the villagers held under the hacienda system than a positive "spirit" generating from within the village. Despite their apparent lack of inner drive, the villagers have nevertheless made significant community efforts.

For example, at the time of the present study, the villagers were in the process of constructing a new school. The entire project was to be completed with community volunteer labor, each family devoting equal time and effort. Half of the funds required to purchase the materials came from a community development program sponsored by U.S. AID, while the other half were raised within the community itself. When completed, the school was to be dedicated by the President of Bolivia during a special ceremony planned for that purpose.

The villagers have also tested chemical fertilizers on community plots, and a few individuals have been impressed enough with the results to use them on their own land. Seventy-five chickens were purchased by the community and a house in which to raise them was constructed. Finally, a consumers' cooperative store was in the planning stages at the time of the study, and expected to be fully functioning within four

or five months.

Data Collection

THE SAMPLE

The data for the present study are based on personal interviews with heads of households in two rural communities. In one of the communities census data were available and thus, a random sample of respondents was selected for interviewing. In the other community, however, census data were not available, and the author worked with the local schoolteacher, two Peace Corps Volunteers assigned to the village, and a Community Development Village Level Worker to compose a list of approximately 80 residents primarily involved in agriculture. According to persons well acquainted with the community, these 80 persons represented from 60 percent to 80 percent of all community members involved in agriculture. From these lists for the two villages, a sample of 89 was randomly selected.

INTERVIEWER TRAINING AND PRETEST

The questionnaire was completed and ready for pretest three weeks prior to the main interviewing. Before the pretest, two interviewers were selected and trained in La Paz. Further training took place in the field during the pretest interviews. Six pretest interviews were conducted in each village. Changes and modifications were made and a final draft of the questionnaire was completed. The questionnaire was written in Spanish; however, more than half of the interviews were conducted in Aymara because the respondents

did not speak Spanish. The interviewers spoke both Spanish and Aymara fluently and, therefore, translated the questions from the questionnaire as they conducted the interviews. This procedure was tried out several times during the training period to make certain that all phrases could be easily translated.

One interviewer went to each of the two villages and lived there until all the interviews were completed. In San Pablo, the interviewer was a resident of La Paz who had lived in an Aymara community for most of his life, but who had recently moved to the city. In Siripaca the interviewer was a resident of the community and was its Village Level Worker for the Community Development program in Bolivia. Both interviewers seemed to have been reasonably well accepted by the people they were working with, as indicated by the fact that only one individual refused to be interviewed.

INTERVIEW ADMINISTRATION

Three waves of interviews were conducted from June to October, 1967. The first wave's questions dealt with the respondent's communication behavior, modernization characteristics, and demographic information. The second wave of questions assessed the respondent's personal consumption behavior and his production and earning levels. The final wave entailed a check on purchase plans obtained from the respondents during the second wave. The first and second

wave were completed by early September and the final wave was completed late in October. During the second wave, time restrictions from the project's termination prevented further interviewing of all of the eighty-nine respondents to the first questionnaire. Only seventy respondents were interviewed during the second wave, with the result that nineteen first wave interviews could not be used. Hence, the findings presented here are based on an N of 70.

Variable Operationalization and Index Construction

The questions asked of respondents were subjected to a process of evaluation and culling to determine which ones would be retained, used alone, or combined into indices. Correlational analysis techniques were employed during this procedure. Within each section of questions (communication, consumption, etc.) indexes were constructed to obtain a more parsimonious set of variables useful for further analysis.

When combining several measures (questions) into an index which purports to measure some underlying dimension, some procedure must be followed in order to ensure unidimensionality of the resulting index. In the present study, the following rule of internal reliability was adopted: all items used in the construction of an index were to be at least significantly correlated with the total score for that index. Items which did not correlate significantly with the

index were excluded. In several cases, however, a significant correlation of each item in the index with every other item in the index was achieved. Indexes constructed which met this latter criteria were deemed more nearly unidimensional than indexes constructed which met only the former. Whether or not a particular index meets the latter criteria will be mentioned when the construction of that index is discussed.

INDICES MEASURING EXPOSURE TO GOODS AND MESSAGES ORIGINATING IN THE MODERN-URBAN SECTOR

MASS MEDIA

Deutachmann (1963), and Rogers (1965) have both provided evidence for a 'centripetal effect' in exposure to the mass media in developing countries. That is, for any individual, a high level of exposure to one media greatly increases the probability that that same individual will also be highly exposed to some, or all, of the other media available to him. There is some justification, then, for combining the measures of exposure to all media and expecting the resulting index to be unidimensional.

Two indexes of mass media exposure were constructed: Mass Media "use" and mass media 'yesterday'. Both measures were constructed from items dealing with exposure to radio, newspapers, movies, and books. An additional measure of radio exposure was also used.

Mass Media 'Use'

This index was constructed using several items which attempted to measure minimal exposure levels to the mass media. The items employed were as follows:

Do you listen to the radio sometimes?

Do you read the newspaper sometimes?

Do you own any books?

Do you attend the movies sometimes?

The intercorrelations of these items ranged from .25 to .52, all significant at the .05 level. An index based on the sum of these four items was therefore constructed and retained for further analysis.

Mass Media 'Yesterday'

In order to obatin some indication of the reliability of the mass media 'use' index, the following items were also combined into an index:

Did you listen to the radio yesterday?

Did you read a newspaper last week?

Did you read a book last year?

Did you see a movie during the last three months?

Of the six possible correlations among these items, five were significant at the .05 level. The exceptions was the correlation between radio listening and movie attendance. All items, however, were significantly correlated with the index.

The correlations between the 'use' of radio, newspapers, books, and movies, as well as these between the use of these four media 'yesterday', provides additional support for the "centripetal effect" found by Deutschmann and Rogers.*

Radio Exposure

Each respondent was asked: During which hours of the day do you usually listen to the radio? The number of hours listened each day were totaled and the sum retained as a measure of radio exposure.

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* The correlations among the items composing the Mass Media "Use" index and the Mass Media 'Yesterday' index are given below. Those correlations marked by an asterisk (*) are significant at the .05 level of probability, N=70.

Mass Media 'Use' Items

	Radio	Newspapers	Books	Movies
Radio		.38*	.23*	.38*
Newspapers			.52*	.43*
Books				.25*
Movies				

Mass Media 'Yesterday' Items

	Radio	Newspapers	Books	Movies
Radio		.44*	.33*	.22*
Newspapers			.33*	.46*
Books				.52*
Movies				

Ad Recall and Recognition

Recognition - Recognition is defined in terms of whether a respondent reports having seen or heard a particular advertising message (Lucas and Britt, 1963, p. 50).

The procedure is useful in that it is easily employed and takes very little time. However, some important limitations are cited: (1) Similarity of the advertisement to other advertisements in a particular campai n may cause confusion on the part of the respondent. Furthermore, (2) a desire on the part of the respondent to impress the interviewer may lead to exageration of the respondents' true level of recognition. Finally, (3) a measure of recognition may really reflect product use rather than exposure to the advertisement.

In the research setting of the present study it is unlikely that the first limitation is important in that the quantity radio advertising in the rural areas of Bolivia is not great. The second limitation probably applies to our rural respondents, but its effects will hopefully be constant throughout the sample. The final limitation, however, is very important and the results should be judged with this in mind.

Recall - Recall on the other hand, would seem to be a more reliable measure of advertising exposure. If an advertisement is conceived of as a total stimulus configuration, then the ability of a respondent to "complete" a partial

configuration, -- that is, name the missing parts - is a measure of recall. The extent to which at least part of these "memorable impressions" are given to the respondent determines the degree to which a recall measure is either aided or unaided. Completely aided recall measures are identical to recognition measures. (Lucas and Britt, 1963, p. 73-74)

In the present study, recognition and recall measures were devised to test exposure to radio advertisements. Tape recordings of nine advertisements were selected from the daily programming of the two La Paz radio stations frequently heard by our respondents, radio Mendez and radio San Gabriel, described earlier. Seven of the nine advertisements were chosen because they were the only advertisements appearing on radio which were presented in the respondent's native language. Two other advertisements broadcast in Spanis were added to this group because these products were widely used in the rural areas.

The following product advertisements were chosen:

Nivea Cream (Spanish)

Patria Soap (Aymara)

Philip Radios (Spanish)

Gilera Motorcycles (Aymara)

Mendez Fertilizer (Aymara)

Hercoles Bicycles (Aymara)

Grace Fertilizer (Aymara)

Rex Coffee (Aymara)

Induvar Plastic Shoes (Aymara)

All nine advertisements were brought together on one tape. Each advertisement appeared twice on the tape; the first time with the brand name of the product 'blanked out', the second time, intact, as it had been presented on radio. Using these tapes, the following procedure was adopted:

1. Respondents were told that they were about to hear nine different advertisements which had been recently played over the radio. They were also told that the brand name had been erased from the tape and that they should listen carefully so that they might guess the name.
2. The first advertisement was then played with the brand name 'blanked out'.
3. The respondent was then asked if he could give the brand name (recall) of the product being advertised.
4. Regardless of whether the respondent could give the brand name, the advertisement was played again. However, this time the brand name was not 'blanked out'.
5. After hearin the unaltered version, the respondent was asked if he had ever heard (recognition) the advertisement before.

Originally both a recall index and a recognition index were constructed separately. Both indices, however, were highly correlated (.97) and were therefore combined into one index of recall and recognition. Of eighteen original items, twelve which correlated significantly with the combined index were retained and the others dropped. Each of the retained items, however, did not significantly correlate with every other item, leaving the superior criterion for index construction unmet.

MOBILITY

Two measures of mobility were chosen for the present study: (1) a measure of geographic mobility over broad areas of the country, and (2) fair attendance within the local rural market system.

Geographic Mobility

The geographic mobility index was composed of questions about residence and travel outside of the respondent's province, department and country.* Military service was also used:

> Have you ever lived outside of this province?
>
> Have you ever lived outside of the Department of La Paz?
>
> Have you ever lived outside of Bolivia?

*In Bolivia, a department is equivalent to a state in the United States, and a province is equivalent to a county.

Have you ever traveled outside of this province?

Have you ever traveled outside of Bolivia?

Have you been in the military service for more than six months?

Each item in the index was significantly correlated with every other item.

Fair Attendance

In the area surrounding the site of the present study there are many rural fairs (markets in which consumer and agricultural goods are sold or exchanged). Most of these fairs are held on different days of the week, and therefore, it is possible (however, unlikely) for a respondent in our sample to attend at least one fair each day of the week. Respondents were asked which fairs they had attended during the month previous to the interview. The fair attendance index is the number of all fairs attended by the respondent during this period.

Indices Measuring Modernizing Skills

LANGUAGE ABILITY

Functional Literacy has been defined as the ability to read and write adequately for carrying out the functions of the individual's role in his salient social system (Rogers, 1966 p. 193). Literacy defined in this way is seen as a process by which different individuals acquire different levels of symbol manipulation ability; levels which differ with

respect to the complexity of the environment within which an individual lives. For example, the level of literacy required to be a successful farmer is lower than the level required to operate a store. Furthermore, the requirements of functional literacy change over time, as the individual or his environment change.

One measure of functional literacy was developed by Waisanen (1964) and has since been used successfully by Rogers (1966) in Colombia. It consists of a Spanish sentence containing six words.* The words in the sentence varied in difficulty and a respondent's functional literacy score was the number of words he could read correctly.

There are some difficulties with the Waisanen approach in that it bypasses some dimensions of literacy not measured by the sentence itself, such as skill level, comprehension, understanding, and written fluency. Ascroft (1966) has developed a method to expand the range of literacy measured by the six-word sentence. In brief, the respondent is given a literacy card with a short sentence printed on it. The card is handed to the respondent upside down. If he turns the card rightside up, the respondent is at a higher level of literacy than if he does not right the

* The sentence read, "El hombre movio su mano rapidamente en un ademan de respeto" (The man moved his hand rapidly in a gesture of respect). A discussion of the sentence can be found in Alfredo Mendex D. and F.B. Waisanen, "Some Correlates of Functional Literacy," presented at the Ninth Congress of the Inter-American Society of Psychologists, Miami, 1964.

card. The next level consists of reading the sentence, and a further level is achieved if the respondent is able to respond to its meaning. Finally, this functional literacy score can be combined with the number of years the respondent has completed in school to give an indication of even higher levels of functional literacy.

The functional literacy measure used in the present study relies heavily on the measure developed by Ascroft. The procedure was as follows:

1. The respondent is handed the card upside down.
2. The respondent is asked to read the sentence, "El hombre movio su mano en un ademan de respeto."
3. The interviewer at this point makes a judgement as to the respondents' reading speed.
4. The respondent is then asked if he has understood what he has just read.
5. Finally, the respondent is asked if he can do what the man in the sentence is suppose to have done.

Step (5) was accomplished by only one of the respondents in the sample and, therefore, was excluded prior to index construction.* All of the other items satisfied both

* All of the respondents who said that they understood the sentence (step 4) indicated to the interviewers that they did not know any gestures of respect which employed the hand. In fact, all of the interviewers working on the project replied to this question by saying that the only rapid hand gestures they knew were not "of respect."

criteria of unidimensionality and were retained in the final index.

After the functional literacy index had been constructed it was combined with two additional items with which it correlated highly: years of education and an interviewer judgement of the respondent's ability to speak Spanish. Education was added to the index for the reasons stated by Ascroft and the spoken Spanish item was used because Spanish is the language commonly used by the urban population and it is essential that a peasant speak Spanish if he wishes to function in the wider society. It was reasoned that although literacy in a language could be acquired without a speaking fluency in that language, it is undoubtedly an extremely important skill on which to build. The person who speaks a language has already acquired many of the vital prerequisites to reading and writing a language: grammar, syntax, vocabulary, etc. Therefore, one can look on spoken language as simply a low level of literacy on which higher levels can be more easily built.

EMPATHY

Empathy is "the capacity to see oneself in the other fellow's situation." (Lerner, 1958, p.50). It has variously been measured in terms of the respondent's ability to play roles (1) higher than his in the socio-economic hierachy (Lerner, 1958), (2) at varying distances upward from the

respondent (Rogers, 1966) and (3) lower as well as higher than the respondent (Portocarerro, 1967). Furthermore, all three investigators tested the respondent's ability to suggest solutions to hypothetical problems ordinarily confronted by persons in these roles:

> "If you were made editor of a paper, what kind of paper would you run?" (Lerner, 1958, p.69)
>
> "If you were the Minister of Education, what would you do with respect to rural schools in Colombia?" (Rogers, 1966).
>
> "What do you think the most backward person of the village should do to improve his life?" (Portocarerro, 1967)

Portocarrero's measure, in addition asks questions pertaining to the respondent's knowledge of the activities performed by persons in these various roles.

Three elements of empathy are suggested in the measures cited above:

(a) Socio-economic distance. The role specified in an empathy measure can be defined in terms of its socio-economic distance from the respondent. Furthermore, this distance can be either above or below the socio-economic level of the respondent.

(b) Knowledge. Different roles entail different task prescription. Information about what people in different roles do is an obvious precondition for dealing effectively with the requirements of that role.

(c) Problem Solving. Following the precondition of knowledge about a role is the ability to specify various problems encountered in that role and to suggest inputs necessary to the solution of those problems.

Using these three elements, the empathy measure used in the present study can be described as follows:

1. Socio-economic distance was more or less constant for all roles used in the measure. All roles were socio-economically higher than that of the respondent, although much closer to the respondents' socio-economic level than the Lerner-type "president" or "newspaper editor" roles. The roles were truckers, masons, store owners, and factory workers.

2. Knowledge of these roles was measured by the questions:

> Can you tell me what a _____ does each day?

Respondents were also asked a more general question:

> What kind of people are _____?

3. Although no direct measure of problem solution was obtained, the respondents were required to suggest the type of information necessary for its solution. This question was asked:

> What kinds of things does a _____ have to know and understand in order to succeed in his business?

Responses to all questions were recorded verbatim by the interviewer. The responses were coded according to the number of separate points each respondent made about the role. The separate points made by all respondents in response to a question were listed. Each individual respondent was scored according to the number of different points he made in reply to each empathy question.

All points made by the respondents for the four roles were factor analyzed to determine what, if any, were the underlying dimensions in the measure. The response dimensions which emerged were closely parallel to the three of questions asked: i.e., What do _____do? What do _____ have to know? What kind of people are _____? Dimensions underlying responses within question types, or for each of the four different roles, were either weak or indeterminable.

Given the rather ambiguous results of the factor analysis, a second procedure was tried. It was suspected that a single dimension, verbal fluency accounted for the number of responses made. To test this, the number of different points made by each respondent in answer to the three questions for each of the four roles were summed. This resulted in twelve different measures of verbal fluency, three for each of the four occupations. A correlation matrix was then calculated using these 12 sums. All but one of the resulting correlation were significant at the .05 level;

the correlations coefficients ranged from .25 to .70. All of the twelve sums were therefore combined into one index of empathy reflecting the verbal fluency of each respondent.

Indices Measuring Innovation Propensity

Three indices of innovation propensity were constructed. One concerned new ideas and techniques in agriculture and animal husbandry. A second dealt with boating, and the third dealt with the willingness of respondents to learn about new innovations in either area. The innovations were selected from a number of new agricultural techniques considered important by the Peace Corps and agricultural workers. These innovations were thought to have been in the early stages of adoption and, at the same time, important to the job of increasing agricultural productivity on the Altiplano.

The usual measure of innovativeness, based on year of adoption as defined by Rogers (1962) was not used because virtually none of the innovations were adopted by the respondents. Of the seven innovations studied, only two had been adopted by more than 1 percent of the sample. Furthermore, less than 20 percent of the respondents had adopted either of these two innovations.

Given this low level of adoption and the consequent difficulty in creating a measure based on adoption, three measures of innovation propensity were developed. Each of

these was based on the awareness stage in the innovation process, rather than on other stages in the adoption process.*

FARMING INNOVATION PROPENSITY

The following six items compose the farming innovation propensity index:

> Have you spoken about agriculture with anyone during the last three months?
>
> Do you plan to speak to anyone about agriculture in the near future?
>
> Do you plan to change your method of production in the near future?
>
> Do you know the names of any of the new, improved seeds being sold in (name of nearby agricultural extension station).
>
> Do you know what animal shears are?
>
> Do you know what artificial insemination is used for?

All items in this index correlated significantly with the index; however, four of the fifteen item-by-item correlations were not significant.

BOATING INNOVATION PROPENSITY

The boating innovation propensity index includes the following items:

> Have you spoken about new ideas in boating during the last three months?

---

* At the awareness stage the individual is exposed to the innovation, but lacks complete information about it. The individual is aware of the innovation, but is not yet motivated to seek further information. The primary function of the awareness stage is to initiate the sequence of later stages that lead to eventual adoption or rejection of the innovation." (Rogers, 1963, p. 81-82).

Do you know what fiberglass boats are?

Do you know what nylon sails are?

Each item was significantly correlated with every other item in the index.

COURSE PARTICIPATION WILLINGNESS

Following the questions dealing with a respondent's knowledge of specific innovations, the innovations referred to were explained briefly to each respondent. The respondents were then asked the following question:

> Suppose that a course were being offered to teach the people of this village about the things we have just been discussing. Would you be willing to participate in such a course?

If the respondent answered 'yes' to this question, he was then asked:

If it cost $b.20, would you attend?

If he also answered 'yes' to this question, he was next asked if he would attend at a cost of $b.30, and finally, at a cost of $b.40. A respondent's total score on this index depended on the highest sum he was willing to pay for the course.

Indices Measuring Economic Level and Consumption Patterns

ECONOMIC LEVEL

Economic level can be measured in at least two ways: (1) the income, real or potential, with which an individual achieves purchasing power, or (2) the possesions,

or goods, he has acquired through past consumption. Among peasant societies, the first refers to measures of output: farm production income, production reserves, and non-farm wage income. The second case refers to the household and production inputs essential to the maintenance of the peasant family unit. Both measures were used in construction of the economic level index, and will be described later.

Wage Production Income Level. - The following information went into the wage/production income index:

a. The monthly wage received for all non-farming activities.

b. The dollar value of all agricultural produce from last year's harvest sold in the market.

c. The quantity of agricultural produce presently being held in reserve.*

All values were converted to standard scores, (Z-scores) before summing to make them equivalent.

Non-food Consumption Level. - A list of likely consumption items was drawn from inventories of goods being sold in rural and urban markets. This list was composed of 118 items in five categories: general, household, clothing, hardware and farm equipment, and luxury items.** Each

*Part of the produce held in reserve should undoubtedly be regarded as food for consumption, and therefore not available for production income, but it is impossible to determine in advance what portion will or will not be sold in the market.

**Luxury items were radios, bicycles, sewing machines, kerosine stoves, flashlights, phonographs, kerosine lamps, watches and clocks.

respondent was asked which of the items his family presently owned; if an item was owned, he was asked how many of that item he owned. For items categorized as luxuries, the year of purchase was also asked.

As with the wage production income, the number of each item owned was converted to standard scores, and summed across the 118 items to give a measure of the non-food consumption level.

Wage/production income and non-food consumption level were combined to create the index of economic level.

CONSUMPTION PATTERNS

Researchers have rarely looked at changes in peasant consumption over time although many have stressed the importance of consumer goods as an incentive toward higher production. Furthermore, a review of the literature reveals no research seeking to discover what, if any, are the patterns of consumption in peasant societies. What types of goods belong in a common category? Does consumption of one type or class of goods tend to be related to consumption of certain other types or classes of goods? The consumption pattern indexes constructed in the present study provide some suggestive answers to these questions.

Of the 118 items for which ownership information was collected, 18 were excluded on the basis of low ownership: owned by less than 10% of the respondents , and the remaining

100 items were factor analyzed.* The four-factor solution, showing only those items which load greater than .35 on any factor is reported in Table 1. Sixteen items did not load .35 or higher and do not appear in the table. Three factors account for 35 percent of the variance, while one residual factor accounts for 6 percent. Several items load higher than .30 on more than one factor (underlined) and therefore limit the purity of these factors. Factor I is the strongest factor and can be most easily interpreted, while Factor II and Factor III are more ambiguous.

Not including the residual factor, three consumption patterns emerge from the factor analysis: essential consumption, productive consumption, and non-essential consumption.

Essential Consumption

Factor I accounts for 14.1% of the variance and is ostensively a clothing consumption factor. Seen in relation to the other two factors, however, this factor might better be called essential consumption. Clothing, second only to food, is essential to survival (especially in the Bolivian Altiplano), and is something everyone owns regardless of wealth.

* Factor Analysis, Principal Components and Orthogonal Rotations, A. Williams, D. P. Clements, J. Katzer; Research Services of the Department of Communication, Michigan State university.

Table 1. Factor Analysis of Consumption Items

Factor I (14.1%)		Factor II (9,6%)	
men's hats	.79*	cement	.78*
skirts	.77*	stucco	.78*
women's hats	.74*	Lock hinges	.71*
slips	.73*	key chains	.67*
dresses	.72*	trowel	.59*
blouses	.66*	screwdrivers	.58*
belts	.65*	phonograph	.54*
rubber sandals	.64*	window glass	.52*
seeds	.62*	pails	.51*
rope	.60*	axes	.51*
pants	.56*	musical instrument	.51*
shawls	.53*	glue	.46*
funnels	.53	flashlights	.46*
jackets	.48*	pencils	.46*
picks	.48*	paint and brush	.44*
sledges	.48*	paper	.44*
sweaters	.46*	books and other reading material	.43*
overalls	.45*	needles	.41*
plastic shoes(M)	.44*	pens	.41*
clay jugs	.44*	overalls	.39
blankets	.44*	scales	.38*
kerosene stoves	.44	plates	.38*
wood	.42	caps	.38*
chains	.42*	wool	.36*
tin cans	.42	buttons	.36*
bicycles	.41	nails	.35*
pots	.41*		
sugar bowls	.40		
needles	.38		
plastic shoes(W)	.37*		
glue	.36		
caps	.36		

Table 1. (Cont'd.)

Factor III (11.6%)		Factor IV(6.1%)	
kerosene lamp	.72*	level	.72*
other lamps	.69*	wood	.70*
table	.68*	nails	.66*
shoelaces	.66*	wire	.59*
corrugated iron roofing	.65*	overalls	.47*
records	.64	cloth	.45
blankets	.60*	blankets	.42
clocks	.60*	watches	.41
kerosene stove	.58*	sewing machines	.40
glasses	.58*	saws	.36*
women's shoes	.57*	scissors	.36*
mirrors	.56*	socks	.35*
suitcases	.54*		
needles	.54*	Total Percent of Variance Accounted for: 41.4%	
ties	.54*		
pike	.52*		
leather shoes	.50*		
tin cans	.49*		
bicycles	.49*		
mousetrap	.48*		
sledges	.48		
dresses	.47		
sugar bowls	.46*		
screwdriver	.45		
watch	.42*		
belt	.42*		
slip	.41*		
sewing machine	.41*		
phonograph	.38		
shawls	.38*		
pots	.38		
files	.38		
radio	.36*		
pants	.36		

* Item loads highest on this factor.

Productive Consumption

Factor II accounts for 9.6% of the variance. On first encounter the items in this factor do not seem related. Most items loading high on this factor, however, are productive items. Cement, stucco, hinges, trowels, screwdrivers, as well as glue, pencils, paper, books, and even musical instruments entail productivity of a kind.

Non-essential Consumption

Factor III account for 11.6% of the variance. All of these items are expensive or have low utility in peasant life. Kerosene lamps, tables, corrugated iron roofing, records, blankets, clocks, kerosene stoves, glasses, suitcases, leather shoes, etc., are all expensive. Shoelaces, mirrors, women's shoes, (most women go barefooted or wear sandals), ties, mousetraps, are less essential to survival in peasant life. This is, therefore, a non-essential consumption.

For use in later analysis, these factors were converted to indexes using a factor scoring procedure.* Each respondent was given a score on each factor which reflected the extent to which his consumption patterns agreed with the pattern reflected in each factor.

* Factor C: Oblique Rotations of Facto Matrixes, Varimax (normal) Rotation, and Factor Score Computation, CC 3600 Program adapted from OBLIMIN, written by W. Cooley, P. Lohnes, and K. Jones; Graduate School of Education, Harvard University.

Indices Measuring Consumption Attitudes

CONSUMPTION SATISFACTION

Using Lerner's idea of a want: get ratio (described in Chapter I), a similar ratio was constructed to describe the relationships involved in Consumption Satisfaction:

$$\text{Consumption Satisfaction} = \frac{\text{Number of purchases actually made}}{\text{Number of purchases planned}}$$

If plans to purchase certain items in the future are completely fulfilled, satisfaction will be at a maximum. The more plans left unfulfilled, the less will be satisfaction. Furthermore, it is important to note that a high level of satisfaction can result from a reduction of planned purchases.

The ratio was operationalized in the following way:

a) During the first interview session, each respondent was asked what household, clothing, and farming items he planned to buy during the coming month.

b) At the end of that month, the respondents were re-interviewed to determine whether they had purchased any of the planned items.

c) The number of items planned and the number of items actually purchased were summed, and the

ratio calculated.#

CONSUMPTION PRESTIGE STANDARD

Fliegel (1965) has suggested that a community prestige standard oriented toward consumption rather than giving, as an ideal form of behavior, is related to a willingness to change in traditional agricultural settings.*

To measure consumption prestige standards in the present study, the following modified version of Fliegel's scale was submitted to each respondent in the sample:

> Interviewer reads: "Some men are more esteemed and respected in a community than others. Please tell me how those men might be described. Which one of the following pairs of statements best describes respected men in this community?"
>
> A. (2) They have the larger and more profitable farms.
> (1) Or, they are generous, willing to help others who need help.
>
> B. (1) They are good hosts, know how to treat their guest properly.
> (2) Or, they have the best tools and equipment on their farms.
>
> C. (2) They know how to buy and to sell in the fairs and how to get the best prices.
> (1) Or, they are friendly, get along well with others.

To test the internal reliability of the ratio, two separate ratios were constructed using odd and even items; a split-half correlation was alculated. The resulting correlation was .77 (significant at .01 level).

* See Chapter I for discussion of the Fliegel study.

D. (1) They are usually the first to contribute help or money if the need arises.
   (2) Or, they have nice homes.

E. (2) They bought a new bicycle and a radio this year.
   (1) Or, they sponsored a fine festival this year.

F. (1) They sponsored a soccer game.
   (2) Or, they are good businessmen and have developed profitable farms.

Each response was scored as indicated in the parenthesis (). A high score on any item reflects a consumption prestige standard;a low score reflects a giving prestige standard.

Only items C, E, and F correlated significantly with the index, therefore, these were retained and the index reconstructed. The higher the score on the index, the greater the consumption oriented prestige standard was deemed to be. A low score indicates an orientation toward giving.

Analyses and Expectations

CORRELATIONAL ANALYSIS

Three correlation matrices were calculated using the variables defined in this chapter. One matrix included observations on all respondents in both villages (N=70), another included only observations on the respondents living in San Pablo (N=42), and the last matrix included only respondents living in Siripaca (N=28).

All of the correlations from these three matrices will not be discussed in the findings chapter. Rather, a list of expectation based on the discussions in Chapter I (literature review) and Chapter II (presentation of the model) will guide the presentation of data. Two general relationships are to be considered:

(1) The relationships between exposure to goods and messages originating in the modern-urban sector and modernizing skills, innovative propensities, consumption attitudes, and consumption patterns.

(2) The relationship between consumption attitudes and innovation propensity and consumption patterns.

The expectations will be outlined in the following section. Here, however, a few words will be said about the manner in which these relationships will be analyzed.

Analysis of the relationships will take three forms:

(1) Checks will be made for possible spuriousness using partila correlations. Such spuriousness can arise when the correlation between two variables is due to (or obscured by) the correlation of those variables with a third variable. The example usually referred to is the high correlation between the number of churches in a city and a high crime rate. Here the relationship is obviously spurious and disappears when population size is held constant.

One method of controlling for spuriousness is to experimentally hold constant the effect of the third variable.

In most social science research, however, experimental control is difficult or impossible. Therefore, it becomes necessary to revert to a simpler form of statistical control known as partialling. Partial correlations are used to determine the difference between a zero-order correlation of two variables and the first-order correlation between those same two variables when the effect of a third variable is held constant. It is also possible to hold more than one variable constant. Holding two variables constant results in a second-order partial correlation, and so on. Only first-order and second-order partial correlations were calculated for the results presented in this study.

(2) If a given correlation seems to result from differences between the two villages rather than from respondent differences within the combined sample, the correlations within each village are presented to determine the degree to which this is true.

(3) If a given correlation seems to result from occupational differences* rather than from respondent

* All of the respondents in both villages were not solely involved in agriculture as a livelihood, some were engaged in boating as well as agriculture. Most of the boaters worked on the ferries which transport cars and truck across the Straits of Tiquina, but a few subsidized their farming incomes by fishing. The breakdown for each of the two occupationsl groups in each village are shown below:

	San Pablo	Siripaca	Total
Farmer-Boater	32	5	37
Farmer Only	10	23	33
	42	28	70

differences within the combined sample, the correlations within each occupational category are also presented.

FACTOR ANALYSIS

The three correlation matrices (combined villa es, San Pablo, and Siripaca) were each subjected to factor analysis using Varimax* (orthogonal) rotation of a principle axis solution. A Kiel-Wrigley criterion of three was adopted for terminating factor rotation, and one rotated solution from each factor analysis was selected for reporting.

Should the expectations for the correlational analysis not provide a sufficiently clear framework for interpreting the data, the factor analyses will help in suggesting new patterns of interrelationships among the variables. The expectations only direct attention to a subset of all possible interrelationships, and relationships existing outside of this subset are ignored. However, should many of the expectations not be fulfilled, the factor analyses will assist in clarifying other possible relationships present in the data. The results of these analyses are presented in the following chapter.

EXPECTATIONS

The most general statement of the expected results of this study is as follows: Exposure to modern-urban goods

* Factor Analysis, Principle Components and Orthogonal Rotations; A. Williams, D. P. Clements, J. Katzer; Research Services of the Department of Communication, Michigan State University.

and messages constitutes a general orientation toward the modern-urban sector and the different manifestations of this orientation will be highly interrelated.

As exposure to modern-urban goods and messages increase, attitudes toward consumption will change to reflect this new orientation. Following a change in consumption attitudes, there will be a change in the desire to better one's economic situation by becoming more receptive to innovations which might increase productivity. Parallel to this, the change in consumption attitudes should also be reflected in individual consumption patterns.

This is the general direction the results are expected to point, a refinement of this expectation follows:

Indices of Exposure to Modern-Urban Goods and Messages

Using the mass media, attending to advertising, traveling or living in different geographical areas, and going to rural fairs all constitute means by which rural peoples become exposed to a modern-urban way of life. Each too, will help reinforce the other. Radios and other media are bought on trips to the urban center or at a rural fair, while advertising and a consequent desire to own certain goods brings rural people to the fair or motivates trips to the city. The mass media create psychic mobility which leads to and is reinforced by geographic mobility.

The first expectation, then, is that the indices of exposure to goods and messages originating in the modern

urban sector will be positively interrelated with one another. Thus, the higher levels of mass media exposure should be accompanied by more accurated radio advertising knowledge, greater attendance at rural fairs, and a greater range of contacts with areas outside of the local community.

Age, Modernizing Skills and Exposure to Modern-Urban Goods and Messages

Widespread education is a recent phenomenon in underdeveloped countries and therefore is largely a benefit that only the younger people have enjoyed. For this reason, and ability to effectively use the "public" language (Spanish in Bolivia as opposed to the Indian dialects) belongs also to the young, and both skills provide them with the means by which they can expose themselves to the modern-urban environment. In turn, exposure to modern-urban goods and messages increases their store of knowledge about other people; about other occupations in their immediate environment.

We should therefore, expect to find all of these characteristics interrelated in the manner just described. Our second expectation, then, is that the indices of exposure to modern-urban goods and messages will be positively related to Language Ability and Empathy, but negatively related to Age. Therefore, those who are younger, better educated, literate, speak fluent Spanish and have greater knowledge about other occupations, will also use the mass media more frequently, have more accurate knowledge of radio advertising,

attend more rural fair, and have traveled or lived in a greater number of different areas than those who are older, less educated, illiterate, and do not speak Spanish.

The Importance of Economic Level

It is entirely possible that the indices of exposure to modern-urban goods and message and modernizing skills are mutually dependent on economic level for their common variance within the sample. Mass media exposure, advertising knowledge, geographic mobility, attendance at rural fairs and the acquisition of modernizing skills each has a "cost barrier" associated with it, and overcoming this barrier is easier for those at the higher economic levels than for those at the lower economic levels. The measures, therefore, may vary together only because they all share a common variance with economic level, and removing the intervening effect of economic level may reduce, or eliminate, the extent to which they vary together. This is a check on the first two expectations: The common variance shared by the indices of exposure to modern-urban goods and messages and modernizing skills will be independent of the variance they each share with economic level.* Therefore, the intercorrelations among these

* Age was not included in this expectation although its relationship to the other indices will be similarly checked for the intervening effect of economic level. The reason it was not included is that there is little support for any particular relationship between age and economic level. It might be suggested, however, that in a rapidly growing economy, age and economic level are positively related, while in a static economy the reverse is true.

indices will not be appreciably reduced if the effect of economic level is held constant.

Consumption Attitudes and Exposure to Modern-Urban Goods and Messages

Rostow (1964), Millikan and Blackmer (1961), and Viner (1963) have all suggested that exposure to consumer goods originating in the modern-urban sector can provide the incentive necessary for changes in the rural farmer's receptiveness to agricultural innovations, while Lerner (1958) and Rogers (1966) have attributed a similar function to mass media exposure in underdeveloped countries (see Chapter I for a discussion of these studies). Before a change in innovative propensity can occur, however, a correspondent change in consumption attitudes must take place. Fliegel (1964) and others (see Chapter I) have offered that an orientation toward consumption, in terms of one's satisfaction with his present state of consumption and the standard of prestige by which he judges his friend and acquaintances -- will result from contact with goods and messages originating in the modern-urban sector. The fourth expectation is that the indices of exposure to modern-urban goods and messages will be negatively related to Consumption Satisfaction and positively related to a Consumption Prestige Standard. In other words, high exposure to modern-urban goods and messages will be accompanied by a tendency to plan more purchases than can actually be made (resulting in low consumption satisfaction) and holding a

standard of prestige based on the consumption and use of goods rather than the giving of time and assistance to others.

Consumption Attitudes and Innovation Propensities

As mentioned in the last paragraph, consumption attitudes intervene between exposure to modern-urban goods and messages and changes in innovation propensities. The fifth expectation, therefore, tests this assumption: the indices measuring innovation propensities (Farming Innovation Propensity, Boating Innovation Propensity, and Course Participation Willingness) will be negatively related to Consumption Satisfaction and positively related to a Consumption Prestige Standard. This means that knowing a large number of boating or farming innovation and talking extensively with others about them will be accompanied by a tendency to plan more purchases than can actually be fulfilled, and expressing a prestige standard based on the consumption and use of goods.

Innovation Propensities and Exposure to Modern-Urban Goods and Messages

Exposure to modern-urban goods and messages, as mentioned earlier, should provide the incentive necessary to increasing receptiveness to innovations. The sixth expectation, then, is that the indices of innovation propensity will be positively related to the indices of exposure to modern-urban goods and messages. Therefore, knowing about a

large number of farming and boating innovations will be accompanied by more frequent use of the mass media, more accurate knowledge of radio advertising messages, more frequent attendance at rural fairs, and a greater range of contacts with areas outside of the local community.

Consumption Patterns and Exposure to Modern-Urban Goods and Messages

The factors determining consumption patterns in underdeveloped countries have been little researched, and any expectations with respect to these patterns will be largely based on intuition.

If exposure to modern-urban goods and messages creates a favorable attitude toward consumption (fourth expectation), this will be translated into the consumption of either non-essential items (those items which are not essential to maintaining a family's household) or productive items (those items which will increase the productive capacity of the purchaser and hopefully lead to additional buying power). The consumption of essential items, however, should not be affected by exposure to modern-urban goods and messages. The seventh expectation is that exposure to modern-urban goods and messages will be positively related to Non-essential Consumption and Productive Consumption, but not related to Essential Consumption.

Consumption Patterns and Consumption Attitudes

Based on the discussion of the previous paragraph, the final expectation is that Non-essential Consumption and Productive Consumption will be negatively related to Consumption Satisfaction and positively related to a Consumption Prestige Standard. Essential Consumption will not be related to either of the consumption attitude indices. Therefore, owning a large number of non-essential and productive consumption items will be accompanied by a tendency to plan more purchase than can actually be fulfilled and holding to a standard of prestige based on the consumption and use of goods rather than the giving of time and assistance to others.

CHAPTER IV

FINDINGS

Correlational Analysis

The expectations listed in the end of Chapter III will guide the discussion of the correlational analysis. Since this study is exploratory and no formal hypotheses were formulated at the beginning, the findings are presented primarily as an aid to clarifying gypotheses for future research. To do otherwise would be consistent with the exploratory nature of the study. The expectations and related findings follow:

1. The indices of exposure to the goods and messages originating in the modern-urban sector will all be positively interrelated.

As can be seen in Table 2, all indices but Fair Attendance are, in fact, highly and positively related to one another; the higher levels of mass media exposure are accompanied by greater knowledge of radio advertising and a wider range of contacts outside of the village. The correlation coefficient between Fair Attendance and Georgraphic Mobility is significant but low (.26), accounting for less than seven percent of the variance between the two indices.

How often a respondent attended rural fairs does not seem to be related to other channels of exposure to goods and messages originating in the modern-urban sector.

Table 2. Zero-order correlations among indices of exposure to modern-urban goods and messages.

	Mass Media 'Use'	Mass Media 'Yesterday'	Ad Recall and Recognition	Geographic Mobility	Fair Attendance
Mass Media 'Use'		.88*	.70*	.58*	.16*
Mass Media 'Yesterday'			.67*	.46*	-.05*
Ad Recall and Recognition				.39*	.01
Geographic Mobility					.26*
Fair Attendance					

2. Indices of exposure to the goods and messages originating in the modern-urban sector will be negatively related to Age, while positively related to Language Ability and Empathy.

In Table 3, Age and Language Ability are correlated in the expected direction with all indices; however, the correlations

with Fair Attendance, although in the expected direction, are not large enough to be significant. It can be concluded, then, that higher exposure to mass media, greater knowledge of radio advertising, and extensive mobility outside of the village are all more characteristic of the younger, better educated respondents having both a written and spoken understading of English.

Empathy is correlated in the expected direction only with Mass Media 'Yesterday' while, on the other hand, it is correlated negatively with Fair Attendance.

Table 3. Zero-order correlations between indices of exposure to modern-urban goods and messages and Age, Language Ability and Empathy.

	Age	Language Ability	Empathy
Mass Media 'Yesterday'	-.56*	.77*	.26*
Mass Media 'Use'	-.59*	.73*	.10
Ad Recall and Recognition	-.30*	.39*	.07
Geographic Mobility	-.49*	.58*	.16
Fair Attendance	-.18*	.12*	.45*
Age	-----	-.63	-.06
Language	-.63	-----	-.13

*Significant at .05 level of probability, N=70

Although having been exposed to a mass media 'yesterday' was expected to accompany knowledge of other occupations, finding that more frequent attendance at rural fairs is accompanied by a low level of knowledge was not expected. To clarify the relationship between Fair Attendance and Empathy, we will turn to the correlations based on each village separately.

Two things should be noted in Table 4: First, Geographic Mobility and Fair Attendance, which are positively correlated in the combined sample, are negatively (although not significantly) correlated in both village samples. Thus, although living and traveling in many different geographic areas is accompanied by frequent fair attendance in the combined sample, the direct relationship between these two measures in due to variance between villages, and not to variance within either village. That is, they are related primarily because the respondents in San Pablo attended more fairs and were more geographically mobile than the respondents in Siripaca.

Second, Empathy is correlated significantly in the expected direction with Ad Recall and Recognition, Age, and Fair Attendance in the Siripaca sample. Therefore, in the Siripaca sample at least, accurate advertising knowledge, youth, and frequent attendance at rural fairs is accompanied by knowlege of other occupations. The fact that Empathy is correlated significantly with Language Ability in the San Pablo sample,

Table 4. Zero-order correlations by village between Fair Attendance and Empathy and other variables.

	Fair Attendance			Empathy		
	N=70	n=42	n=28	N=70	n=42	n=28
Mass Media 'Use'	.16	.12	.16	.10	.16	.33
Mass Media 'Yesterday'	-.05	.06	.05	.26*	.22	.26
Ad Recall and Recognition	.01	.06	-.01	.07	-.11	.37*
Geographic Mobility	.26*	-.13	-.26	-.15	.24	.15
Age	-.18	-.06	-.29	-.06	-.10	-.36*
Language Ability	.12	-.01	.08	.13	.35*	.13
Fair Attendance	----	----	----	-.45*	-.08	.39*

*Significant at .05 level of probability.

but none of the other variables, may be due to the nature of the Empathy measure. The occupations each respondent was asked about to determine his level of Empathy are all easily encountered in a town the size of San Pablo. In Siripaca, however, isolation from most of these occupations is greater. Therefore, it is likely that knowledge of other occupations is more homogeneous in San Pablo than in Siripaca, thus accounting for the stronger relationships between Empathy and the other measures in Siripaca.

3. The common variance shared by the indices of exposure to modern-urban goods and messages and modernizing skills will be independent of the variance they each share with Economic Level.

Tables 5 and 6 present the first-order partial correlations between the variables presented in Tables 2 and 3. Although all zero-order correlations are reduced by partialling out the effect of Economic Level, most of those which were statistically significant and strongly positive remain so.

Table 5. First-order correlations among indices of exposure to modern-urban goods and messages with Economic Level held constant.

	Mass Media 'Use'	Mass Media 'Yesterday'	Ad Recall and Recognition	Geographic Mobility	Fair Attendance
Mass Media 'Use'		.85* (.88*)	.64* (.70*)	.45* (.58*)	.14 (.16)
Mass Media 'Yesterday'			.61* (.67*)	.32* (.46*)	-.10 (-.05)
Ad Recall and Recognition				.27* (.39*)	.01 (.01)
Geographic Mobility					.25* (.26*)
Fair Attendance					

* Significant at .05 level of probability, N=70.
( ) Zero-Order Correlation from Table 2.

The correlations most affected by partialling out Economic Level are between Geographic Mobility and Mass Media 'Use', and Mass Media 'Yesterday' and Ad Recall and Recognition. Even here, however, the reduction represents, on the average, not more than two or three percent of the variance accounted for between each pair. It can be concluded, therefore, that Economic Level is not a major factor affecting the relatedness of these variables.

Table 6. First-order correlations between indices of exposure to modern-urban goods and messages and Age, Language Ability, and Empathy with Economic Level held constant

	Age	Language Ability	Empathy
Mass Media 'Yesterday	-.49* (-.56*)	.71* (.77*)	.23 (.26*)
Mass Media 'Use'	-.51* (-.59*)	.65* (.73*)	.04 (.10)
Ad Recall and Recognition	-.20 (-.30*)	.28* (.39*)	.02 (.07)
Geographic Mobility	-.40* (-.49*)	.47* (.58*)	-.25* (-.16)
Fair Attendance	-.16 (-.18)	.09 (.12)	-.46* (-.45*)

* Significant at .05 level of probability, N=70.
( ) Zero-Order Correlation from Table 3.

There is, however, one set of correlations which are possibly a result of spuriousness. This is the set of correlations between Ad Recall and Recognition and Mass Media 'Use',

Mass Media 'Yesterday', Geographic Mobility, Language Ability, and Age. It is highly likely that these correlations are a result of the high correlation between Ad Recall and Recognition and the hours of radio listened to per day. After all, exposure to radio is a prerequisite for exposure to advertising being broadcast over radio; therefore, correlations between advertising exposure and other variables may result from a common correlation with radio exposure.

Table 7 shows the results of partialling out the effect of radio exposure from the correlations between Ad Recall and Recognition and the other indices. The first-order correlations are substantially lower than the zero-order correlations in every case, three remaining significant and two not remaining significant. It is important to point out, however, that Ad Recall and Recognition still explains about 20 percent of the variance in both mass media exposure indices, and a little less than 9 percent of the variance in Geographic Mobility. Although not significant, the correlations with Language Ability and Age are in the expected direction. Hence, despite the potential spuriousness, we can still conclude that the higher levels of advertising knowledge are partially accompanied by greater exposure to the mass media and a stronger liklihood of having lived or traveled outside of the local village community.

Table 7. First-order correlations between Ad Recall and Recognition and Mass Media 'Use', Mass Media 'Yesterday', Geographic Mobility, Language Ability, and Age with Radio Hours Per Day held constant.

	Ad Recall and Recognition	
	Zero-Order r	1st-Order r with Radio: hrs. per day constant
Mass Media 'Use'	.70*	.48*
Mass Media 'Yesterday'	.67*	.42*
Geographic Mobility	.39*	.29*
Fair Attendance	.01	.01
Language Ability	.39*	.22
Age	-.30	-.22

* Significant at .05 level of probability, N=70.

Before turning to the fourth expectation, the findings for the first three expectations will be briefly reviewed and some pertinent comments made.

Except for Fair Attendance, the indices measuring exposure to goods and messages originating in the modern-urban sector are all positively interrelated. Furthermore, this interrelatedness is independent of Economic Level, and in the case of Ad Recall and Recognition, partially independent of radio exposure.

Failing to find Fair Attendance unrelated to the other indices of exposure to goods and messages suggests two alternative conclusions: (1) Fair Attendance as a measure of exposure to modern-urban goods is not related to exposure to modern-urban messages (i.e., mass media exposure) or to Ad Recall and Recognition as an alternate measure of exposure to modern-urban goods. (2) Fair Attendance is not a valid measure of exposure to modern-urban goods.

Accepting the first explanation suggests that seeing modern-urban goods in the rural fairs does not create an orientation toward messages emanating from the modern-urban sector. While accepting the second explanation suggests that the frequency with which a person attends rural fairs is not related to the impact that goods for sale in those fairs will have on him. A decision between these alternative explanations cannot, of course, be made until other possible measures of exposure to modern-urban goods are devised and tested.

Turning to the relationship between the indices measuring exposure to modern-urban goods and messages and Age, Language Ability, and Empathy, it was found that Age and Language Ability are related as expected to all exposure indices except Fair Attendance. Empathy, on the other hand, is not related as expected to any of the exposure indices, but there is some indication that it is more important as a predictor of exposure in Siripaca than in San Pablo.

4. The indices of exposure to modern-urban goods and messages will be negatively related to Consumption Satisfaction and positively related to Consumption Prestige Standard.

This expectation finds little, if any, support in the data presented in Table 8. The correlation coefficients for Consumption Satisfaction and Consumption Prestige Standard with Mass Media 'Use', Mass Media 'Yesterday', and Ad Recall and Recognition are all low and non-significant for the combined villages sample. In Siripaca, the correlations are also low and non-significant. In the San Pablo sample, however, the correlations suggest a relationship inverse to that suggested in the expectation. Although significant in only one case, Consumption Satisfaction is positively correlated with Mass Media 'Use' (.29) and Mass Media 'Yesterday' (.39 and significant) in this village. That is, a tendency to fulfill purchase plans is accompanied by a higher level of mass media exposure. Consumption Prestige Standard, on the other hand, is negatively (but not significantly) correlated with Mass Media 'Yesterday' (-.25) and Ad Recall and Recognition (-.21) in San Pablo.

Fair Attendance and Geographic Mobility are correlated negatively with both Consumption Satisfaction and Consumption Prestige Standard. The correlations with Consumption Satisfaction are in the expected direction, the correlations with Consumption Prestige Standard are not. Both sets of correlations, however,

are due to variance between villages, not to variance within each village. The only significant correlation in the expected direction within a village is that between Consumption Satisfaction and Fair Attendance in the San Pablo sample (-.40). In this same village, however, Consumption Satisfaction and Geographic Mobility are correlated significantly in a positive direction (.33). The other correlations within villages do not reach significance.

Table 8. Zero-order correlations between Consumption Satisfaction and Consumption Prestige Standard and indices measuring exposure to goods and messages originating in the modern-urban sector. #

	Consumption Satisfaction			Consumption Prestige Standard		
	N=70	n=42	n=28	N=70	n=42	n=28
	Combined Sample	San Pablo	Siripaca	Combined Sample	San Pablo	Siripaca
Mass Media 'Use'	.03	.29	-.08	-.10	-.06	-.05
Mass Media 'Yesterday'	.18	.39*	-.10	-.07	-.25	-.05
Ad Recall and Recognition	.04	.18	-.10	-.01	-.21	.18
Geographic Mobility	-.35*	.33*	-.13	-.25*	.02	-.02
Fair Attendance	-.69*	-.40*	.25	-.46*	-.18	.05

* Significant at .05 level of probability

\# Although the indices measuring exposure to goods and messages are all related to Economic Level, Consumption Satisfaction, and Consumption Prestige Standard are not (correlations with Economic Level are .06 and

-.04 respectively). The partial correlations with Economic Level held constant were not appreciably different from the Zero-Order correlations reported in this table. Therefore they have not been reported.

To summarize, of the five indices measuring exposure to goods and messages, only Fair Attendance and Geographic Mobility are significantly correlated with Consumption Satisfaction in the expected direction (negative), however, both correlations reflect variance between the villages and in only one case (Consumption Satisfaction with Fair Attendance in San Pablo) do they reflect variance within a village. Although significant in only one case (Consumption Satisfaction with Mass Media 'Yesterday'), there is some indication that Consumption Satisfaction and Consumption Prestige Standard are related to the mass media indices in a direction opposite to that stated in the expectation.

The conclusion to be drasn is that, in general, the indices of exposure to modern-urban goods and messages are not related as expected to consumption attitudes; although there is some support for the belief that a strong tendency to fulfill purchase plans is accompanied by low Geographic Mobility and infrequent Fair Attendance.

Contrary to expectation, however, is the finding that a strong tendency to fulfill purchase plans is accompanied in the San Pablo sample by <u>high</u> mass media exposure and <u>extensive</u> geographic mobility. Lerner (see Chapter I) has suggested

that "satisfaction" is a ratio of "want" over "get" and that dissatisfaction may increase with exposure to mass media because wants increase without a parallel increase in the ability to get. The findings in the San Pablo sample, however, indicate the reverse of Lerner's belief. It is possible, however, that what has been measured by the Consumption Satisfaction index is the ability to plan short-term purchases per se and that satisfaction with one's present level of consumption is not reflected in this measure. That is, the time period on which the index is based (one month) is too short, and that it is in the process of making and fulfilling long-range plans (over a year perhaps) that satisfaction or dissatisfaction with one's ability to fulfill those plans is evident.

Another unexpected result is that having a prestige standard based on consumption rather than on giving is accompanied by low Geographic Mobility and infrequent Fair Attendance. This relationship, however, is based on variance between the two villages and not on variance within either village.

5. The indices measuring innovation propensity (Farming Innovation-Propensity, Boating Innovation Propensity, and Course Participation Willingness) will be negatively related to Consumption Satisfaction and positively related to Consumption Prestige Standard.

In Table 9, correlations with Consumption Satisfaction are again contrary to expectations. In the combined villages sample, Consumption Satisfaction is highly and positively correlated with Farming Innovation Propensity (.71). In each village and for each occupational type, the correlations between Consumption Satisfaction and Farming Innovation Propensity are high and positive in every case except in the Siripaca sample. There it is insignificantly low. Contrary to expectations, then, a tendency to fulfill purchase plans is accompanied by greater knowledge of farming innovations and more frequent conversations about farming in San Pablo, but not in Siripaca.

The correlations between Consumption Satisfaction and Boating Innovation Propensity for the boater/farmer sample was only -.04. Since the Boating Innovation Propensity index does not apply to farmers, this is the only sample for which a correlation is reported. It is conceivable that this sample could have been broken into village groups, but the small number of boater/farmers in Siripaca (5) did not warrant this break.

Consumption Satisfaction is not significantly correlated with Course Participation Willingness in any of the samples. There is, however, some indication that these two indices are negatively correlated, as expected, in the Siripaca sample. With an N=28, however, this is not significant.

Table 9. First-order correlations between Consumption Satisfaction and innovation propensity indices.

	N=70	n=42	n=28	n=37	n=33
Farming Innovation Propensity					
Zero-Order Correlations	.714*	.616*	-.067	.754*	.587*
Boating Innovation Propensity					
Zero-Order Correlations	----	----	----	-.938	----
Course Participation Willingness					
Zero-Order Correlations	.026	.256	-.315	.120	-.056

*Significant at .05 level of probability

In Table 10, a Consumption Prestige Standard is correlated in the expected direction (positively) with Farming Innovation Propensity in the combined sample (.43) and the sample of respondents engaged in farming only (.42). In the other samples, correlations with Farming Innovation Propensity were not significant, but in the Siripaca and boater/farmer samples they are in the expected direction.

There is also a significant correlation with Course Participation Willingness in thesample of farmers only (.46) and this is in the expected direction. The other correlations with Course Participation Willingness, as well as the correlation with Boating Innovation Propensity, are all non-significant. This suggests that, for those engaged only in farming, there is ample confirmation of the expectation that holding a prestige standard based on consumption rather than on giving is accompanied by extensive knowledge of farming innovations and frequent conversations with others about farming, as well as a strong willingness to take part in a course on new techniques in farming.

Before turning to the sixth expectation, a few words should be said about the fourth and fifth expectations. These expectations are: (1) The indices of exposure to modern-urban goods and messages will be negatively related to Consumption Satisfaction, but positively related to Consumption Prestige Standard. (2) In turn, Consumption Satisfaction will be negatively related, and Consumption Prestige Standard will be positively related to the indices of innovation propensity.

The findings presented for the fourth expectation inconclusively suggest that Consumption Satisfaction, as expected, is negatively related to Geographic Mobility

Table 10. First-order correlations between Consumption Prestige Standard and innovation propensity indices

	N=70	n=42	n=28	n=37	n=33
	Total Sample	San Pablo	Stripaca	Boating and Farming	Farming Only
Farming Innovation Propensity					
Zero-Order Correlations	.429*	-.018	.236	.22	.42*
Boating Innovation Propensity					
Zero-Order Correlations	----	----	----	-.10	----
Course Participation Willingness					
Zero-Order Correlations	.053	.134	-.084	.26	.46*

* Significant at .05 level of probability

and Fair Attendance, but conclusively show it not negatively related to Mass Media 'Use', Mass Media 'Yesterday', or Ad Recall and Recognition as expected. On the other hand, the data conclusively show that a Consumption Prestige Standard is not positively related, as expected, to the indices of exposure.

The findings presented for the fifth expectation, on the other hand, conclusively show that Consumption Satisfaction is not negatively related to the indices of innovation propensity, as expected, while there is inconclusive support for the expectation that Consumption Prestige Standard is positively related to Farming Innovation Propensity and Course Participation Willingness.

It is unclear that consumption attitudes are affected by exposure to modern-urban goods and messages and, in turn, change innovation propensity. It is possible that exposure to modern-urban goods and messages directly affect innovation propensity, however. This possibility brings us to the sixth expectation.

6. The indices measuring innovation propensities will be positively related to the indices measuring exposure to goods and messages originating in the modern-urban sector.

As can be seen in Table 11, Farming Innovation Propensity is positively correlated with Mass Media 'Yesterday' in the expected direction (.41), but negatively correlated with Fair Attendance (-.68) in the combined sample. That is, higher levels of farming innovation knowledge and conversation about farming are accompanied by a high use of mass media 'Yesterday', but a low frequency of attendance at rural fairs. The correlations between Farming Innovation Propensity and the other indices measuring exposure to goods and messages are not significant in the combined sample.

There are, however, differences in the correlations between the two village samples. In the San Pablo sample, Farming Innovation Propensity is correlated in the expected direction with Mass Media 'Use' (.49), Mass Media 'Yesterday' (.65), and Geographic Mobility (.61). This suggests that in San Pablo, at least, higher levels of farming innovation knowledge and conversations about farming are accompanied by frequent use of the mass media and extensive contact with areas outside of the local village. In the Siripaca sample, however, there are no significant correlations between Farming Innovation Propensity and the indices measuring exposure to goods and messages.

Turning to Boating Innovation Propensity, there are significant correlations in the expected direction between this index and Mass Media 'Use' (.49), Mass Media 'Yesterday' (.65), and Geographic Mobility (.61). This suggests that in San Pablo, at least, higher levels of farming innovation knowledge and conversations about farming are accompanied by frequent use of the mass media and extensive contact with areas outside of the local village. In the Siripaca sample, however, there are no significant correlations between Farming Innovation Propensity and the indices measuring exposure to goods and messages.

Turning to Boating Innovation Propensity, there are significant correlations in the expected direction between this index and Mass Media 'Use' (.38), Mass Media 'Yesterday'

(.46) and Geographic Mobility (.42). However, the correlations with Mass Media 'Use' and Geographic Mobility drop below the level necessary for significance when the effect of Economic Level is held constant through partialling.

In the combined sample, Course Participation Willingness is significantly correlated in the expected direction with Mass Media 'Use' (.46), Mass Media 'Yesterday' (.43), and Geographic Mobility (.36). All correlations, however, are substantially reduced when the effect of Economic Level is held constant, but only the correlation with Geographic Mobility drops below the level required for significance.

Village differences are again important. In the San Pablo sample, Course Participation Willingness is significantly correlated with Mass Media 'Use' (.62), Mass Media 'Yesterday' (.43), and Ad Recall and Recognition (.35); however, the correlation with Ad Recall and Recognition drops below the level required for significance when Economic Level is held constant. Therefore, we can only say for certain that, in San Pablo, a strong willingness to take part in a course about new innovations is accompanied by higher levels of exposure to the mass media. In the Siripaca sample, on the other hand, Course Participation Willingness is not significantly correlated with any of the indices measuring exposure to goods and messages.

Table 11. Zero-order and first-order correlations between indices of exposure to modern-urban goods and messages and indices of innovation propensity

	Mass Media 'Use'					Mass Media 'Yesterday"				
	N=70	n=42	n=28	n=37	n=33	N=70	n=42	n=28	n=37	n=33
	Total Sample	San Pablo	Siripaca	Boating & Farming	Farming Only	Total Sample	San Pablo	Siripaca	Boating & Farming	Farming Only
Farming Innovation Propensity										
Zero-order r	.18	.49*	.16	.28	.29	.41*	.65*	.17	.51*	.40*
1st-order r (Econ. Level constant)	.09	.37*	.10	.24	.10	.36*	.58*	.12	.46*	.37*
Boating Innovation Propensity										
Zero-order r	---	---	---	.38*	---	---	---	---	.46*	---
1st-order r (Econ. Level constant)	---	---	---	.20	---	---	---	---	.42*	---
Course Participation Willingness										
Zero-order r	.46*	.62*	.15	.54*	.34*	.43*	.54*	.22	-.07	.18
1st-order r (Econ. Level constant)	.28*	.44*	.10	.34*	.21	.28*	.36*	.18	-.11	.10

* Significant at .05 level of probability

Table 11. Cont'd

	Ad Recall and Recognition					Fair Attendance				
	N=70	n=42	n=28	n=37	n=33	N=70	n=42	n=28	n=37	n=33
	Total Sample	San Pablo	Siripaca	Boating and Farming	Farming Only	Total Sample	San Pablo	Siripaca	Boating and Farming	Farming Only
Farming Innovation Propensity										
Zero-order r	.12	.26	.26	.20	.44*	-.58*	-.16	.32	-.35*	-.58*
1st-order r (Econ.Level constant)	.05	.13	.21	.16	.25	-.62*	-.20	.28	-.40*	-.47*
Boating Innovation Propensity										
Zero-order r	---	---	---	.21	---	---	---	---	.07	----
1st-order r (Econ. Level constant)	---	---	---	.10	---	---	---	---	-.02	---
Course Participation Willingness										
Zero-order r	.22	.35*	.22	.28	.18	-.01	.06	.05	.08	-.17
1st-order r (Econ. Level constant)	.06	.17	.18	.15	-.03	-.06	.02	.01	-.03	.00

* Significant at .05 level of probability

Table 11. Cont'd

	Geographic Mobility				
	N=70	n=42	n=28	n=37	n=33
	Total Sample	San Pablo	Siripaca	Boating and Farming	Farming Only
Farming Innovation Propensity					
Zero-order r	-.03	.61*	.28	.06	.09
1st-order r (Econ. Level constant)	-.02	.54*	.27	-.03	.01
Boating Innovation Propensity					
Zero-order r	---	---	---	.42*	---
1st-order r (Econ. Level constant)	---	---	---	.25	---
Course Participation Willingness					
Zero-order r	.36*	-.13	-.26	.25	-.00
1st-order r (Econ. Level constant)	.19	-.73*	-.28	-.06	-.08

*Significant at .05 level of probability

It appears, then, that the correlations between Course Participation Willingness and the two Mass Media indices reported for the combined sample are largely due to the correlations between these variables in the San Pablo sample. The correlation between Course Participation Willingness and Geographic Mobility in the combined sample is only due to the variance between the two villages and not to variance within any one village.

The findings presented for the sixth expectation, that the indices of exposure to modern-urban goods and messages will be positively related to innovation propensity, are only slightly more conclusive than those presented to support a relationship between consumption attitudes and innovation propensity.

There is partial support for the expectation that Farming Innovation Propensity is positively related to Mass Media 'Use', Mass Media 'Yesterday', Ad Recall and Recognition, And Geographic Mobility. However, the data conclusively show that Fair Attendance is <u>not</u> related positively to Farming Innovation Propensity. The strongest evidence for these conclusions is found in the data for the San Pablo sample.

For the expectation that Boating Innovation Propensity will also be positively related to the indices of exposure to modern-urban goods and messages, there is conclusive support for a positive relationship with Mass Media 'Yesterday', and partial support for a similar relationship with Mass

Media 'Use' and Geographic Mobility. There is no evidence to show that Boating Innovation Propensity is positively related to either Ad Recall and Recognition or Fair Attendance, as expected.

Looking at the evidence for the expectation that Course Participation Willingness will also be positively related to the indices of exposure to modern-urban goods and messages, there is partial support for an expected positive relationship between Course Participation Willingness and both mass media exposure indices. The strongest evidence for this relationship exists in the correlations for the San Pablo Sample. A positive relationship with Ad Recall and Recognition is only inconclusively suggested, while there is conclusive evidence that Course Participation Willingness is <u>not</u> positively related to Fair Attendance or Geographic Mobility as expected.

In general, mass media exposure seems to be the best predictor of innovation propensity, while Geographic Mobility, although not as strongly related to innovation propensity as mass media exposure, is a reasonably good predictor. That is, higher levels of mass media exposure and Geographic Mobility are accompanied by greater innovation propensity.

Ad Recall and Recognition and Fair Attendance, however, are poor predictors of innovation propensity. This is worth noting because these two indices are the only direct measures

of exposure to goods, or messages about goods, originating in the modern-urban sector. It is therefore possible that Rostow's suggestion that making inexpensive consumer goods available in the rural areas will provide an incentive to increase productivity is incorrect. However, two reasons make such a conclusion seem untenable: First, Rostow has suggested increasing the availability of goods in the rural areas, and out measures are concerned with exposure to these goods. Therefore, to make an inference about the effect of changing availability from the data based on exposure assumes that they are both highly related. Such an assumption, as yet, has no confirmation. Second, the measures of exposure to goods, and messages about goods, originating in the modern-urban sector may not be valid. The possibility that Fair Attendance does not measure variability of exposure to goods in the rural fairs has already been mentioned. Also, Ad Recall and Recognition may not be measuring what it is supposed to be measuring; exposure to messages about goods. For instance, it has already been pointed out that this index is highly correlated with radio exposure which suggests that it may be the variability in radio exposure and not advertising knowledge which is being measured.

7. The indices of exposure to modern-urban goods and messages will be positively related to Productive Consumption and to Non-essential Consumption, but negatively related to Essential Consumption.

Before citing the evidence for this expectation, the construction of the three consumption pattern indices will be briefly reviewed.

The inventory of 100 consumption goods owned by respondents in both villages were factor analyzed. Four factors emerged from this factor analysis: (1) Essential Consumption, (2) Productive Consumption, (3) Non-essential Consumption, and (4) a residual factor.* Each respondent was then given a "factor score" indicating how closely his own consumption approximated the pattern suggested in each factor. All factor scores were inputs into the correlation matrix.

The zero-order correlations are presented in Table 12. These correlations, however, may be influenced by the relationship between Total Consumption--that is, all consumption factor scores taken together--and the indices of goods and messages exposure. To check this possibility, therefore, a second-order partial correlation was calculated holding all other consumption factors constant : in addition to each zero-order correlation between a consumption factor and one of the indices of goods and message exposure. Both of these sets of correlations have been presented, but only the second-order correlations will be referred to in the text.

Turning to the data presented in Table 12, there is reasonably good support for the expectation that Productive

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* For an interpretation of the meaning of these factors, refer to Chapter III.

Table 12. Zero-order correlations between consumption patterns and indices measuring exposure to goods and messages originating in modern-urban sector.

	Mass Media 'Use'			Mass Media 'Yesterday'			Ad Recall and Recognition		
	N=70	n=42	n=28	N=70	n=42	n=28	N=70	n=42	n=28
Essential Consumption									
Zero-Order r	.23	.34*	.17	.30*	.33*	.20	.28*	.18	.24
2nd-Order r (Productive, non-essential and residual constant)	.14	.19	.22	.27*	.23	.25	.17	.07	.22
Productive Consumption									
Zero-Order r	.33*	.34*	.29	.38*	.46*	.33	.21	.18	.34
2nd-Order r (Essential, non-essential and residual constant)	.24*	.22	.29	.32*	.39*	.33	.15	.11	.29
Non-essential Consumption									
Zero-Order r	.18	.24	-.24	.04	.13	-.25	.11	.19	-.30
2nd-Order r (Essential, productive and residual constant)	.12	.18	-.23	-.03	.05	-.25	.06	.13	-.28

* Significant at .05 level of probability

Table 12. Cont'd.

	Fair Attendance			Geographic Mobility		
	N=70	n=42	n=28	N=70	n=42	n=28
Essential Consumption						
Zero-Order r	-.23	.05	.03	.09	.36*	.16
2nd-Order r (Productive, non-essential and residual constant)	-.32*	.01	.04	-.04	.17	.17
Productive Consumption						
Zero-Order r	.22	.22	-.26	.37*	.37*	.31
2nd-Oeder r (Essential, non-essential and residual constant)	.22	.20	-.28	.28*	.23	.29
Non-essential Consumption						
Zero-Order r	.22	.04	-.03	.31*	.28	.02
2nd-Order r (Essential, productive and residual constant)	.21	.02	.01	.26*	.13	.02

*Significant at .05 level of probability

Consumption will be positively related to the indices of exposure to modern-urban goods and messages. In the combined villages sample Productive Consumption, as expected, is positively correlated with Mass Media 'Use' (.24), Mass Media 'Yesterday' (.32), and Geographic Mobility (.28). Therefore, scoring high on the factor containing ownership items of a productive nature is accompanied by a high level of exposure to the mass media and extensive geographic mobility outside of the local village. The correlations with Ad Recall and Recognition (.15) and Fair Attendance (.22) are not significant but are in the expected direction. Within each village, furthermore, the correlations are similar to those for the combined villages, but are significant in only one case. Also, the correlations with Fair Attendance in Siripaca are not in the expected direction.

In the combined sample, Non-essential Consumption is significantly correlated in the expected direction with Geographic Mobility (.26) but with none of the other indices of goods and messages exposure. This correlation, however, is due to variance between the villages, not to variance within each village. Interesting, although not significant, are the negative correlations in the Siripaca sample between this consumption factor and Mass Media 'Use' (-.23), Mass Media 'Yesterday' (-.25), as well as with Ad Recall and Recognition (-.28).

Essential Consumption, as expected, is correlated negatively with Fair Attendance (-.32) but not with any of

the other indices in the combined sample. This correlation with Fair Attendance reflects a between village, not a within village variance. Furthermore, of those variables not correlated in the expected direction, Mass Media 'Yesterday' is correlated positively with Essential Consumption (.26) in the combined sample, and similar non-significant correlations can be found in the seperate villages.

In general, the data present is inconclusive in support of the expectation that the indices of exposure to modern-urban goods and messages will be positively related to Productive Consumption and Non-essential Consumption, but negatively related Essential Consumption. There is strong evidence to support the expectation that Productive Consumption is positively related to Mass Media 'Use', Mass Media 'Yesterday', and Geographic Mobility, but only slight support for a similar relationship with Fair Attendance and Ad Recall and Recognition.

On the other hand, there is conclusive data to show that Essential Consumption is not negatively related to Mass Media 'Yesterday', Ad Recall and Recognition, and Geographic Mobility as expected. There is, however, some reason to believe that Fair Attendance is negatively related to Essential Consumption as expected.

There is support for the expectation that Non-essential Consumption will be positively related to Geographic Mobility, but no indication that it is similarly related to the other indices of exposure to modern-urban goods and messages.

8. Consumption Satisfaction will be negatively related to the Productive Consumption factor and the Non-essential Consumption factor, but positively related to the Essential Consumption Factor.

Turning to Table 13, Consumption Satisfaction is correlated in the expected directions with Essential Consumption (.41) and Non-essential Consumption (-.25) in the combined villages sample. The correlation between Productive Consumption and Consumption Satisfaction is non-significant, but is in the expected direction (-.12). The correlations within each village samples are all non-significant and low, indicating that the significant correlations found in the combined villages sample reflect variance between the two villages but not within them.

It can be concluded then, that a strong tendency to fulfill purchase plans is accompanied by high consumption of essential items, but a low consumption of non-essential items. The consumption of productive items is not related to the fulfillment of purchase plans.

9. Consumption Prestige Standard will be positively related to the Productive Consumption factor and the Non-essential factor, but negatively related to the Essential Consumption factor.

None of the correlations presented in Table 14 are in the expected direction. In fact, Essential Consumption is significantly correlated with Consumption Prestige Standard in a positive direction (.41) in the combined villages sample, although the correlations for this pair are small and non-significant in both village samples. The correlations for Productive

Table 13. Zero-order and second-order correlations between Consumption Satisfaction and consumption patterns

	Consumption Satisfaction		
	N=70	n=42	n=28
	Total Sample	San Pablo	Siripaca
Essential Consumption			
Zero-order correlation	.318*	.099	.000
Second-order correlation: Productive, non-essential and residual constant	.414*	.02	.000
Productive Consumption			
Zero-order correlation	-.114	.014	.173
Second-order correlation: Essential, non-essential and residual constant	-.122	-.02	.16
Non-essential Consumption			
Zero-order correlation	-.240*	.066	.079
Second-order correlation: Essential, productive and residual constant	-.248*	.08	.03

* Significant at .05 level of probability

Consumption and Non-essential Consumption are not significant, however, they are in a direction contrary to expectation. Therefore, it can be conclusively stated that holding a standard of prestige based on consumption rather than giving is not accompanied by a high consumption of productive and non-essential items, nor by a low consumption of essential items.

Table 14. Zero-order and second-order correlations between Consumption Prestige Standard and consumption patterns

	Consumption Prestige Standard		
	N=70	n=42	n=28
	Total Sample	San Pablo	Siripaca
Essential Consumption			
Zero-Order r	.205	.043	.003
2ne-Order r (productive, non-essential and residual constant)	.414*	.06	.00
Productive Consumption			
Zero-Order r	-.223	-.162	-.197
2nd-Order r (essential, non-essential and residual constant)	-.241	-.16	-.21
Non-essential Consumption			
Zero-Order r	-.157	-.016	-.077
2nd-Order r (essential, productive, and residual constant)	-.155	-.02	-.08

*Significant at .05 level of probability

SUMMARY OF CORRELATIONAL ANALYSIS

The first expectation for the correlational analysis was that all of the indices of exposure to modern-urban goods and messages will be positively interrelated. In support of this expectation, significant correlations were found among all of the indices of exposure except Fair Attendance. Therefore, it was concluded that the higher levels of mass media exposure are accompanied by greater knowledge of advertising, and extensive mobility outside of the local village, but not by frequent fair attendence. The suggestion was made that Fair Attendance may not be a valid measure of exposure to modern-urban goods.

The second expectation was that the indices of exposure would be positively related to Language Ability and Empathy, but negatively related to Age. The findings for this expectation confirmed that the higher levels of mass media exposure, greater advertising knowledge, and extensive mobility outside of the local village are accompanied by more education, literacy, and knowledge of spoken Spanish (Language and Ability), as well as by youth. Empathy was not related to these measures. There was, however, some indication that Empathy is related positively to the indices of exposure in the Siripaca sample.

The third expectation stated that the relationships found above would not be due to the fact that these

variables share a common variance with Economic Level. Partial correlations were calculated to check this possibility, and it was found that removing the effect of Economic Level did not appreciably alter the relationships found.

The correlations between Ad Recall and Recognition and the other indices of exposure were checked for possible spuriousness due to shared variance with radio exposure. Although the strength of the relationships were considerably reduced by partialling out Economic Level, they still remained above that level required for significance.

The same check was made of the correlations for Ad Recall and Recognition with Age, Language Ability, and Empathy. This time the correlations were reduced below the level required for significance, and the second expectation results had to be modified to state that only Mass Media 'Use', Mass Media 'Yesterday', and Geographic Mobility are positively related to Language Ability and negatively related to age.

The fourth expectation was that the indices of exposure to modern-urban goods and messages would be negatively related to Consumption Satisfaction, but positively related to Consumption Prestige Standard. The correlations indicated that a tendency to fullfill purchase plans is accompanied by infrequent Fair Attendance and little

Geographic Mobility. However, this conclusion had to be modified by adding that it reflects variance between the two villages and not variance within either village by itself.

There was no data found to support the expectation that a Consumption Prestige Standard would be positively related to the indices of exposure. However, contrary to expectation, it was related negatively to Geographic Mobility and Fair Attendance in the combined sample, but not in either village sample.

Consumption Satisfaction, was found to be positively related to Mass Media 'Yesterday' and Geographic Mobility in the San Pablo sample. It was suggested, however, that the Consumption Satisfaction index may really reflect short-term ability to plan purchases, rather than satisfaction with one's present level of consumption.

The fifth expectation was that the indices of innovation propensity would be negatively related to Consumption Satisfaction and positively related to a Consumption Prestige Standard. None of the correlations support the contention that Consumption Satisfaction is negatively related to the innovation propensity indices. However, there are significant correlations in the sample of those engaged only in farming which show that knowledge of farming innovations and frequent conversations about farming, as well as strong willingness to take part in a course about farming innovations is accompanied

by a prestige standard based on consumption rather than on giving. A Consumption Prestige Standard is also accompanied by high Farming Innovation Propensity in the combined sample, but not in either village sample.

Contrary to expectation, a tendency to fulfill purchase plans (Consumption Satisfaction) is accompanied, in every sample except the Siripaca sample, by high Farming Innovation Propensity. As suggested earlier, however, Consumption Satisfaction may reflect an ability to make realistic short-term purchase plans without being related to the dimension of a "satisfaction" in consumption.

The sixth expectation was that the indices of exposure to modern-urban goods and messages will be positively related to the indices of Innovation Propensity. The data for this expectation show conclusively that, in the San Pablo sample knowledge of farming innovation and frequent conversations about farming are accompanied by higher levels of mass media exposure and more extensive geographic mobility, but not by frequent fair attendance or greater advertising knowledge. In Siripaca, the findings are inconclusive with respect to Farming Innovation Propensity and the indices of exposure.

In the sample of boater/farmers, knowledge of boating innovations and frequent conversations about boating are conclusively accompanied by high use of the

Mass Media 'Yesterday', and less conclusively (possibly a spurious relationship due to differences in Economic Level), by high Mass Media 'Use' and extensive Geographic Mobility. Boating Innovation Propensity is not related to Ad Recall and Recognition, nor Fair Attendance.

In the San Pablo sample, Course Participation Willingness, like Farming Innovation Propensity, is positively related to both mass media exposure indices, but not to Ad Recall and Recognition, Fair Attendance, or Geographic Mobility. Course Participation Willingness, however, is not related to any of the indices of exposure in the Siripaca sample.

The seventh expectation stated that the indices of exposure to modern-urban goods and messages will be positively related to Productive Consumption and Non-Essential Consumption, but negatively related to Essential Consumption. The correlations show that a tendency toward owning productive items is accompanied by high use of themass media and extensive geographic mobility outside of the local village, but not by advertising knowledge or frequent attendance at rural fairs. The only evidence to support the expectation that Essential Consumption would be negatively related to the indices of exposure was a significant correlation suggesting that high ownership of essential items is accompanied by infrequent Fair Attendance. Contrary to expectation, however,

was a significant, positive correlation between Essential Consumption and Mass Media 'Yesterday'.

A correlation suggesting that high ownership of non-essential items is accompanied by extensive geographic mobility was the only support found for the expectation that Non-essential Consumption would be positively related to the indices of exposure.

The eight expectation stated that Consumption Satisfaction will be positively related to Essential Consumption, but negatively related to Productive Consumption and Non-essential Consumption. In the combined sample, a tendency to fulfill purchase plans was accompanied by high ownership of essential items and low ownership of non-essential items, as expected, but this reflected variance between villages, and not differences within either village. The correlations between Productive Consumption and Consumption Satisfaction were not significant.

The ninth, and final, expectation was that a Consumption Prestige Orientation will be negatively related to Essential Consumption, but positively related to Productive Consumption and Non-essential Consumption. The correlations presented do not provide any support for accepting the relationships stated in this expectation. The only significant correlation suggested that, contrary to expectation,

having a prestige standard based on consumption rather than on giving, is accompanied by high ownership of essential items.

DISCUSSION

The expectations proposed as a guide to interpreting the correlational analysis were formulated in accord with the following proposition:

> Exposure to goods and messages originating in the modern-urban sector will act to change attitudes towards consumption in such a manner as to cause the traditional, rural individual to be more oriented toward consumption and, at the same time, to respect a similar orientation in his neighbor.
>
> This new orientation toward consumption will then lead to a desire to better one's economic situation by becoming more receptive to innovations which might increase the productivity of the individual.
>
> Parallel to this, the change in consumption attitudes willaalso be reflected in the individual's consumption patterns. He will tend to consume more goods of a productive or a non-essential nature in addition to those goods which are necessary for his survival. The consumption of productive goods will reflect his desire to reap the fruits of that productivity.

Confusion arises in finding support for these expectations, however, because of the fact that differing interrelationships are found among the variables depending on which sample or sub-sample the correlations are based. That is, if one looks at the correlations based on the combined sample, the interrelationships found differ from those which are found when one looks at the correlations based on the San Pablo Sample, or on the Siripaca Sample.

There are, however, interrelationships which hold up no matter how the respondents are grouped; variables which vary together in the same direction within each village as well as across both villages. Five such variables fit this criterion: they are Mass Media 'Use', Mass Media 'Yesterday', Ad Recall and Recognition, Geographic Mobility, Language Ability and Age. The intercorrelations for these five variables show that across both villages, and within each village, the higher levels of mass media exposure are accompanied by higher recall and recognition of radio advertising messages, more extensive mobility outside of the local village, higher education, greater literacy, a good speaking knowledge of Spanish, and youth. And, as mentioned before, this interrelationship holds across all economic levels.*

Based on this finding, then, it is easy to decide the extent to which the first three expectations are fulfilled. For the first expectation, we can conclude that four of the five indices measuring exposure to modern-urban goods and messages (Fair Attendance excepted) are highly inter-correlated in the expected direction. For the second expectation we can conclude that the four highly inter-correlated indices of exposure are all positively related

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* It should be pointed out, however, that the correlations of Ad Recall and Recognition with Age and Language Ability are reduced slightly below the level required for significance when the affect of radio exposure is removed through partialling.

to Language Ability and negatively related to Age, but not related to Empathy as expected. And, for the third expectation we can conclude that the interrelationships found in the first two expectations are independent of Economic Level.

The correlations remaining to test the last six expectations are difficult to interpret because they reflect either variance between the two villages (variance due to differences between the two villages), variance between the two occupational groups, or variance within a single village--they do not, however, represent variance across all sample breakdowns.

For this reason, the correlations were subjected to factor analysis in the hope that some of the confusion might be resolved and the data more easily interpreted. The results of this factor analysis are reported in the next section of this chapter.

Factor Analysis

The principle axis solutions using Varimax rotations with a Kiel-Wrigley criterion (at least three variables loading highest on all factors) for terminating factor rotations, yielded three rotated solutions for the three samples shown in Table 15.

Table 15. Percent of total variance explained by all rotated solutions meeting a Kiel-Wrigley Criterion of three loading high all factors for factor analyses based on the combined sample, the San Pablo sample, and the Siripaca sample.

		Combined Sample N=70	San Pablo Sample n=42	Siripaca Sample n=28
Rotated Solution		Percent of Total Variance Explained		
Two Factor	Factor I	28.5%	27.6%	26.8%
	Factor II	25.0	17.8	14.8
	Total	53.5	45.4	41.6
Three Factor	Factor I	20.7%	25.3%	25.4%
	Factor II	24.8	16.1	14.5
	Factor III	15.9	12.2	11.9
	Total	61.4	53.6	51.8
Four Factor	Factor I	14.8%	----*	24.2%
	Factor II	24.8	----	14.1
	Factor III	10.8	----	12.6
	Factor IV	17.3	----	8.4
	Total	67.7	----	59.3

* Did not meet Kiel-Wrigley criterion

Selection of the rotated solutions to be reported followed two general guidelines: (1) Solutions containing factors which each explained greater than 10% of the total

variance were prefered over solutions containing factors which each explained less than 10% of the total variance. (2) Those solutions for which meaningful dimensions appeared to be in sharpest focus were prefered over those for which these dimensions were difficult to interpret.

Using these guidelines, the four-factor solution was selected from the combined-sample factor analysis, and the three-factor solutions from the factor analyses based on each village separately. The combined-sample factor analysis will be discussed first.

COMBINED-SAMPLE FACTOR ANALYSIS

The four factors in the combined-sample factor analysis jointly explain a total of 68% of the total variance present among the twenty-one variables. The dimensions underlying these four factors will be discussed in order of importance relatative to the amount of total variance they each explain: Factor II (25%), Factor IV (17%), Factor I (15%), and finally Factor III (11%).

Dimension I. Village Differences

The first dimension has been named Village Differences because it contains items which depend more on differences between the two villages than on differences within each village, for common variance. This is not apparent from

the results presented in Table 16, but can be seen in the similarities between this table and the information presented in Figure 2.

Table 16. Variables loading highest on factor II Village Difference Dimension

Variable Name	Factor Loading	Highest Other Loading	Highest Other Factor	h^2
Village (San Pablo)	.93	.14	4	.88
Consumption Satisfaction	-.84	.08	1	.72
Fair Attendance	.79	.10	4	.65
Farming Innovation Propensity	-.79	.25	4	.70
Occupation (Farmer-Boater)*	.70	.43	1	.67
Empathy	-.69	.42	1	.51
Boating Innovation Propensity	.69	.41	1	.68
Consumption Prestige Standard	-.65	-.13	4	.44
Variance Explained: 24.8%				

*Occupation is scored 'one' for Farmer-Boater and 'zero' for Farmer only. Therefore, a positive loading on this factor means that being a farmer-boater is positively correlated with the factor, and being a farmer only is negatively correlated with the factor.

Those variables for which there is a sizable difference in means between the two villages are the same variables that load highly on this first dimension. Furthermore, the direction and size of these village differences are paralleled in the factor loadings. For example, the largest difference between mean values is on the Consumption Satisfaction index, the respondents in the Siripaca sample scoring higher than the respondents in the San Pablo sample. This is the index which loads second highest and negative on the factor, Village (San Pablo)* being first and positive. The same is true for the other indices with high loadings on the factor. The only index for which there is a significant difference between the two villages, yet which does not load highest on this factor, is Geographic Mobility. This index, however, has its second highest loading on the Village Differences factor (.34).

The village portrait for San Pablo relative to Siripaca which emerges from the data presented in these two tables is as follows: San Pablo respondents demonstrate <u>less</u> Consumption Satisfaction, Farming Innovation Propensity,

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*On the village item, living in San Pablo is scored 'one' and living in Siripaca is scored 'zero'.

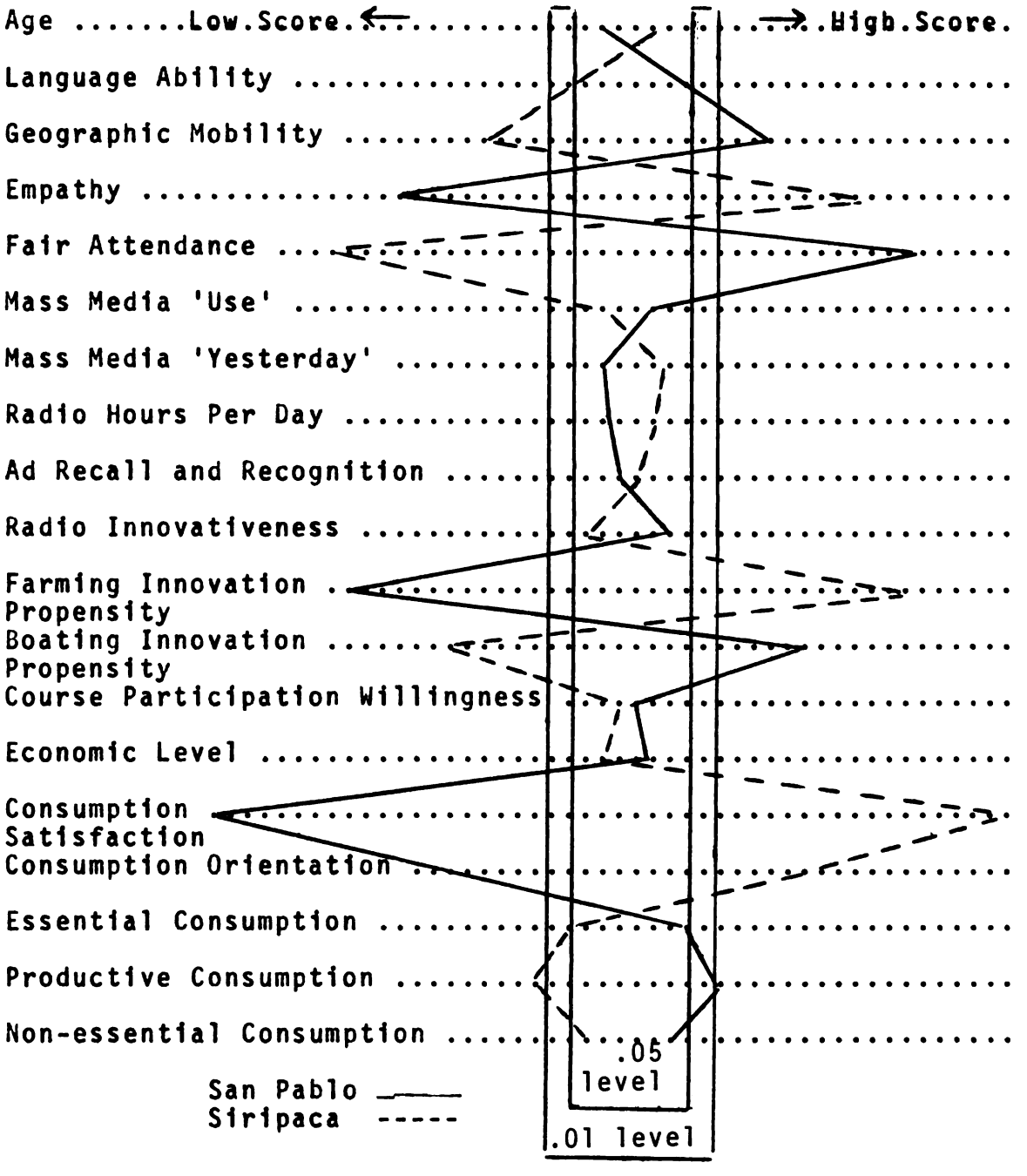

Figure 2. Difference between villages on mean values of the variables and indices used in correlational and factor analyses*

*The diagram visually represents different values of the statistic t calculated on the difference between the mean scores in both villages. All t values shown as falling outside of the vertical lines are significant at either the .05 or .01 level. High scores fall to the right, low scores to the left.

and Empathy than the Siripaca respondents. On the other hand, they attend more fairs, show more Boating Innovation Propensity, and are more geographically mobile than the Siripaca respondents. The portrait for Siripaca, of course, is the mirror image of that for San Pablo: more Consumption Satisfaction, Farming Innovation Propensity, and Empathy, than the San Pablo respondents. They attend less fairs, show less Boating Innovation Propensity, and are not as geographically mobile as the San Pablo respondents.

Dimension II. Modernizing Potentials

The second dimension has been named Modernizing Potentials because, as can be seen in Table 4, it contains a group of items which refer to a set of skills, behaviors and attitudes associated with modernization.

This dimension is similar to the one found by Ascroft (1966) named "Ability to Understand Communication". However, in addition to communication variables it also includes other indicators of modernization and for this reason it is somewhat more general than Ascroft's dimension.

The high loadings of Language Ability and the mass media exposure indices point up the importance of communication in the modernization process and suggest that it is important to the development of modernizing behavior.

Table 17. Variables loading highest on Factor IV: Modernizing Potentials Dimension

Variable Name	Factor Loading	Highest Other Loading	Highest Other Factor	h^2
Language Ability	.86	.21	1	.81
Age of Respondent	-.73	-.20	1	.60
Mass Media 'Yesterday'	.72	.55	1	.87
Mass Media 'Use'	.71	.57	1	.85
Course Participation Willingness	.68	.25	3	.55
Geographic Mobility	.65	.34	2	.62

Variance Explained: 17.3%

Dimension III: Radio Exposure

The third dimension has been labeled Radio Exposure. The factor on which it is based (Table 5), contains items which refer to the use of radio and radio advertising. The Radio Innovativeness item gives some indication of the number of years a respondent has been exposed to radio. That is, the earlier he adopted (purchased) a radio, the greater his overall exposure to radio.

Although radio 'Use' and radio 'Yesterday' items are included in the mass media exposure indices, the number of radio hours listened per day does not load on this factor, but on a separate factor. (It is important to note, however, that Mass Media 'Use' and Mass Media 'Yesterday' both have their second-highest loading on the radio exposure factor--.57 and .55 respectively, and that they contain radio items.) This result is to be expected when one considers the fact that radio in Bolivia is the sole medium employing the Indian language. The print media and cinemaemploy only Spanisy and are not used by Indians unless they possess the necessary skills in that language. Exposure to radio (but not to the print media or conema) is, then, more or less independent of education, literacy, and the ability to speak Spanish. With respect to this observation, it should be pointed out that although the second highest loadings for the mass media exposure indices are high on this factor (.57 and .55), the radio items either do not load on the modernizing potential factor (radio innovativeness) or have low loadings (Radio: hours per day, 116; and Ad Recall and Recognition, .28).

These findings are somewhat different from those presented by Ascroft (1966). He found radio exposure loading on the same factor as literacy, education and other mass media exposure indices. The loading, however, was low, which suggests an interpretation similar to the one offered here.

Table 18. Variables loading highest on Factor I: Radio Exposure Dimension

	Factor Loading	Highest Other Loading	Highest Other Factor	h^2
Radio: hours per day	.87	.16	4	.80
Ad Recall and Recognition	.85	.28	4	.81
Radio Innovativeness	.61	.26	3	.50
Variance Explained: 14.8%				

Dimension IV: Level of Living

The final dimension has been named Level of Living because, as can be seen in Table 6, variables loading on this factor refer to the different patterns of consumption as well as the economic level index.

Some caution, however, should be exercised in the interpretation of this dimension. Each of these indices share a number of common items (see Chapter III) and, therefore, the cluster on which this factor is based is not totally composed of independent measures.

Table 19. Variables Loading Highest on Factor III: Level of Living Dimension

	Factor Loading	Highest Other Loading	Highest Other Factor	h^2
Economic Level	.84	.34	4	.89
Productive Consumption	.75	.19	4	.64
Essential Consumption	.66	-.41	2	.64
Non-essential Consumption	.50	.34	2	.38
Variance Explained:	10.8%			

SAN PABLO-SAMPLE FACTOR ANALYSIS

The first dimension has been named Modernizing Potentials because, as can be seen in Table 7, it contains a group of items which refer to a set of skills, behaviors, and attitudes associated with modernization.

With few differences, there is a marked similarity between this dimension and the like-named dimension reported for the combined-sample factor analysis (See Table 4). Although the relative loadings for each variable are somewhat different, all of those variables loading highest on the combined-sample factor also load high on the San Pablo-sample factor. Of those variables which change their relative

position from one factor to the other, three are important. Age has the second highest loading on the combined-sample factor (-.73), but drops to the second lowest loading on the San Pablo-sample factor (-.58). Language Ability similarly drops from the highest loading (.86) to the fourth highest loadint (.79), while geographic mobility moves from the lowest loading on the combined-sample factor (.65) to the third highest loading on the San Pablo-sample factor (.80).

Table 20. Variables loading highest on Factor I: Modernizing Potential Dimension for San Pablo

Variables	Factor Loading	Highest Other Loading	Highest Other Factor	h^2
Farming Innovation Propensity	.83	-.17	3	.73
Mass Media 'Yesterday'	.81	.36	2	.90
Geographic Mobility	.80	.26	3	.75
Language Ability	.79	.21	3	.76
Mass Media 'Use'	.73	.37	2	.79
Course Participation Willingness	.72	.25	3	.58
Consumption Satisfaction	.64	-.40	3	.61
Age	-.58	-.39	2	.56
Empathy	.39	-.19	2	.17
Percent of variance accounted for: 25.3%				

The major difference between this factor and that reported for the combined-sample factor analysis is the presence of three additional variables having highest loadings on this factor. In factor loading order, they are Farming Innovation Propensity (.83), Consumption Satisfaction (.64), and Empathy (.39). Farming Innovation Propensity is the highest loading variable on this factor, while Consumption Satisfaction and Empathy load seventh and last respectively. On the combined-sample factor analysis all three of these variables loaded highest on the factor suggesting the village differences dimension. That these should not load on this San Pablo-sample factor suggests that, in addition to the common set of variables refering to a modernizing potential dimension in both villages, these are also important to that dimension in San Pablo.

Dimension II. Occupational Differences

This dimension has been named Occupational Differences because it contains items which differentiate more strongly between respondents in the two occupational groups (farmer-boaters and farmers only) than among all respondents in the San Pablo sample taken together.

As can be seen in Table 8, being a farmer-boater (rather than a farmer only) is positively associated with innovative propensity in boating, recall and recognition

of radio advertising, hours of radio listened to per day, and being an early purchaser of a radio in the village. Having a Consumption Prestige Standard however, is negatively related to all the other items loading highest on this factor.

In the combined-sample factor analysis the three radio items composed a separate factor (Radio Exposure), and were not strongly associated with occupational differences. In San Pablo, however, it appears that occupation is a crucial determiner of radio exposure.

Table 21. Variables loading highest on Factor II: Occupational Differences Dimension for San Pablo

Variables	Factor Loading	Highest Other Loading	Highest Other Factor	h^2
Occupation (Farmer-Boater)	.83	.06	3	.76
Boating Innovation Propensity	.80	.20	3	.75
Ad Recall and Recognition	.69	.38	1	.64
Radio: Hours per day	.60	.24	1	.44
Radio Innovativeness	.57	.25	3	.43
Consumption Prestige Standard	-.56	.05	3	.54
Variance Explained: 16.1%				

Dimension III. Level of Living

The third dimension is named Level of Living because it contains items referring to economic characteristics of the respondents. This can be seen in Table 9.

With the exception that Fair Attendance is included, this dimension is almost identical with the Level of Living dimension found in the combined-sample factor analysis. The addition of Fair Attendance to the present dimension suggests that visiting rural fairs is associated with level of living in San Pablo, but not across all respondents in both villages.

Also of interest is the high positive secondary loading of Economic Level on the Modernizing Potentials dimension (Factor I). This suggests that a high economic status may facilitate modernization, while a low economic status may hinder it.

Table 22. Variables loading highest on Factor III: Level of Living Dimension for San Pablo

Variables	Factor Loading	Highest Other Loading	Highest Other Factor	h^2
Productive Consumption	.72	.27	1	.60
Economic Level	.70	.55	1	.89
Essential Consumption	.64	.32	1	.59
Non-essential Consumption	.48	.11	2	.28
Fair Attendance	.48	-.27	1	.71
Variance explained: 12.2%				

SIRIPACA-SAMPLE FACTOR ANALYSIS

The three-factor solution in the Siripaca-sample factor analysis explains a total of 52% of the variance among the twenty-one variables. Each factor separately explains the follow amount of variance: Factor I, 25%; Factor II, 14%; Factor III, 12%. These are equivalent to the variance explained by each of the three factors in the San Pablo-sample factor analysis (25%, 16% and 12%, respectively).

Dimension I. Modernizing Potentials

The first dimension in the Siripaca-sample factor analysis has been labeled Modernizing Potentials because, as can be seen in Table 10, it contains items which refer to a set of skills, behavior, and attitudes associated with modernization.

The major differences between this dimension and the two previously described dimensions of the same name (See Table 4 and Table 7) is that it contains the three radio exposure items, as well as two items referring to particular consumption patterns. Furthermore, unlike the Modernizing Potential dimension for the San Pablo-sample factor analysis, this factor does not contain Farming Innovation Propensity, Consumption Satisfaction or Empathy.

Table 23. Variables loading highest on Factor I: Modernizing Potential Dimension for Siripaca

Variables	Factor Loading	Highest Other Loading	Highest Other Factor	h^2
Mass Media 'Yesterday'	.91	.18	3	.89
Mass Media 'Use'	.90	.22	2	.89
Language Ability	.83	-.28	3	.78
Radio: hours per day	.81	-.29	2	.75
Ad Recall and Recognition	.76	.30	3	.74
Radio Innovativeness	.66	.51	3	.76
Age	-.59	-.38	2	.63
Geographic Mobility	.52	.18	3	.33
Non-essential Consumption	-.46	.34	3	.35
Essential Consumption	.38	-.07	2	.15
Course Participation Willingness	.30	-.17	2	.13

Variance Explained: 25.4%

Non-essential Consumption is negatively correlated with this factor (-.46), while Essential Consumption is positively correlated (.38) with this factor. In the other

two factor analysis, these two variables were both positively correlated with the Level of Living dimension. This suggests that in Siripaca consumption of goods, such as clothing and other items owned by most of the respondents, is positively related to modernization, but consumption of luxuries and other items infrequently owned by most respondents is negarively related to modernization.

The core group of items which load highest on all three factors representing the Modernizing Potentials Dimension are as follows: (1) Language Ability, (2) Age, (3) Mass Media 'Yesterday', (4) Mass Media 'Use', (5) Course Participation Willingness, and (6) Geographic Mobility. Language Ability and the two mass media exposure indices load approximately the same on all three Modernizing Potential factors. However, the remaining three variables shift their positions somewhat from one factor to another. Course Participation Willingness and Geographic Mobility have much higher loadings on the combined-sample and the San Pablo sample factors than they do on the Siripaca-sample factor. Age, on the other hand, loads higher on the combined-sample factor than it does on either of the other two factors.

Dimension II. Occupational Differences

The second dimension, Occupational Differences, contains items which differentiate more strongly between

occupational groups than among all respondents in the Siripaca sample.

In Table 11 it can be seen that being a farmer-boater (rather than a farmer only) is associated with Boating Innovation Propensity, frequent Fair Attendance, Empathy, Farming Innovation Propensity and, to a lesser extent, an attitude of Consumption Satisfaction.

The only common variables in this dimension and the like-named dimension for the San Pablo-sample factor analysis are Occupation and Boating Innovation Propensity. Fair Attendance in the San Pablo-sample factor analysis loads highest on the Level of Living factor, while Empathy, Farming Innovation Propensity, and Consumption Satisfaction all load highest on the Modernizing Potential factor.

Table 24. Variables loading highest on Factor II: Occupational Differences Dimension for Siripaca

Variables	Factor Loadings	Highest Other Loading	Highest Other Factor	h^2
Occupation (Farmer-Boater)	.86	-.32	3	.85
Boating Innovation Propensity	.86	-.32	3	.85
Fair Attendance	.64	-.02	1	.42
Empathy	.54	.31	1	.42
Farming Innovation Propensity	.54	.47	3	.51
Consumption Satisfaction	.25	-.25	1	.16
Variance Explained:	14.5%			

Dimension III. Level of Living

This final dimension has been named Level of Living because it contains items referring to the economic characteristids of the Siripaca respondents. In Table 12 it can be seen that only two items have an appreciable loading on this factor; Productive Consumption and Economic Level. The third item loading highest on this factor accounts for extremely little of the variance among the items.

Unlike the Level of Living dimensions for the other two samples, only one of the three consumption pattern indices load on this factor. The other three, as mentioned earlier, load on Factor I (Modernizing Potentials).

Table 25. Variables loading highest on Factor III Levels of Living Dimensions for Siripaca

Variables	Factor Loading	Highest Other Loading	Highest Other Loading	h^2
Productive Consumption	179	.21	1	.68
Economic Level	.76	.22	1	.63
Consumption Prestige Standard	.05	-.02	1	.00
Variance Explained: 11.9%				

SUMMARY OF FACTOR ANALYSIS

Table 13 presents a summary of the three factor analysis results. In this table the clusters of variables within each of the three samples can be compared one with another, and similarities noted. Also, individual variables can be traced as they change location from one cluster to another across the different analyses.

That set of variables which remain highly associated despite village differences is the set which composes the combined-sample dimension of Modernizing Potentials. However, also associated with these variables in the San Pablo-sample factor analysis are Farming Innovation Propensity, Consumption Satisfaction and Empathy. In the Siripaca sample factor analysis, this dimension is joined by the radio exposure items, and two consumption pattern indices.

The radio exposure items, although associated with the Modernizing Potential dimension in the Siripaca sample, are associated with occupational differences and the lack of a Consumption Prestige Standard in the San Pablo sample. In the combined sample factor analysis they constitute a separate factor with high secondary loadings on the Modernizing Potentials factor.

The Level of Living dimension found in the combined-sample factor analysis is also found in the San Pablo-sample factor analysis with the sole exception being that Fair Attendance is associated with this dimension in the San Pablo sample. In the Siripaca-sample factor analysis only Productive Consumption

and Economic Level are found in this dimension, while Non-essential Consumption and Essential Consumption become associated with Modernizing Potentials.

Table 26. Comparison of factor analytic dimensions based on combined sample, San Pablo sample, and Siripaca sample.

COMBINED SAMPLE

Village Differences		ModernizingPotentials	
Village (San Pablo).....	.93	Language Ability.....	.86
Consumption Satisfaction.	-.84	Age.....-.73	
Fair Attendance.....	.79	Mass Media 'Yesterday"..	.72
Farming Innovation Propensity.....	-.79	Mass Media 'Use'.....	.71
Occupation (Farmer-Boater).....	.70	Course Participation Willingness....	.68
Empathy.....	-.69	Geographic Mobility.....	.65
Boating Innovation Propensity.....	.69		
Consumption Prestige Standard.....	-.65	Level of Living	
		Economic Level.....	.84
Radio Exposure		Production Consumption..	.75
		Essential Consumption...	.66
Radio: hrs. per day.....	.87	Non-essential Consumption...	.50
Ad Recall and Recognition	.85		
Radio Innovativeness.....	.61		

SAN PABLO SAMPLE

Modernizing Potentials		Occupational Differences	
Farming Innovation Propensity.....	.83	Occupation (Farmer-Boater.....	.83
Mass Media 'Yesterday'...	.81	Boating Innovation Propensity...	.80
Geographic Mobility.....	.80	Ad Recall and Recognition..	.69
Language Ability.....	.79	Radio: hrs. per day.....	.60
Mass Media 'Use'.....	.73	Radio Innovativeness....	.57
Course Participation Willingness....	.72	Consumption Prestige Standard....-.56	
Consumption Satisfaction.	.64		
Age.....	-.58		
Empathy.....	.39		

Table 26. Cont'd

Level of Living

Productive Consumption.....	.72
Economic Level.....	.70
Essential Consumption.....	.64
Non-essential Consumption.....	.48
Fair Attendance.....	.48

SIRIPACA SAMPLE

Modernizing Potentials

Mass Media 'Yesterday'.....	.91
Mass Media 'Use'.....	.90
Language Ability.....	.83
Radio: hrs. per day.....	.81
Ad Recall and REcognition.....	.76
Radio Innovativeness.....	.66
Age.....	.59
Geographic Mobility.....	.52
Non-essential Consumption.....	-.46
Essential Consumption.....	.38
Course Participation Willingness	.30

Occupation Differences

Occupation (Farmer-[illegible] Boater).....	.86
Boating Innovation Propensity.....	.86
Fair Attendance.....	.64
Empathy.....	.54
Farming Innovation Propensity.....	.54
Consumption Satisfaction.....	.25

Level of Living

Productive Consumption.....	.79
Total Economic Level.....	.76
Consumption Prestige Level....	.05

Table 26. Cont'd

Level of Living

Productive Consumption.....	.72
Economic Level.....	.70
Essential Consumption.....	.64
Non-essential Consumption.....	.48
Fair Attendance.....	.48

SIRIPACA SAMPLE

Modernizing Potentials

Mass Media 'Yesterday'.....	.91
Mass Media 'Use'.....	.90
Language Ability.....	.83
Radio: hrs. per day.....	.81
Ad Recall and REcognition.....	.76
Radio Innovativeness.....	.66
Age.....	.59
Geographic Mobility.....	.52
Non-essential Consumption.....	-.46
Essential Consumption.....	.38
Course Participation Willingness	.30

Occupation Differences

Occupation (Farmer-Boater).....	.86
Boating Innovation Propensity.....	.86
Fair Attendance.....	.64
Empathy.....	.54
Farming Innovation Propensity.....	.54
Consumption Satisfaction.....	.25

Level of Living

Productive Consumption.....	.79
Total Economic Level.....	.76
Consumption Prestige Level....	.05

DISCUSSION

At the end of the correlational analysis section, it was mentioned that only certain variables remained highly interrelated regardless of whether the correlations were based on the entire sample or various sub-samples, by village residence or occupation. Aside from this group of variables, the interrelationships of the other variables were confused by village and occupational differences among the seventy respondents. The factor analyses, however, resolve some of this confusion by showing which variables are highly related to village or occupational differences.

Those variables for which there are village or occupational differences in the combined sample are as follows: Consumption Satisfaction, Fair Attendance, Farming Innovation Propensity, Empathy, Boating Innovation Propensity, and Consumption Prestige Standard. In the San Pablo sample, those variables which are highly related to occupational differences are: Boating Innovation Propensity, Ad Recall and Recognition, Radio Exposure, Radio Innovativeness, and Consumption Prestige Orientation. In Siripaca, Boating Innovation Propensity, Fair Attendance, Empathy, Farming Innovation Propensity, and Consumption Satisfaction are related to occupational differences.

Most of these variables are the ones which enter into the relationships stated in the last six expectations; those expectations which propose, that consumption attitudes which have been affected by exposure to modern-urban goods and messages will lead to shifts in innovation propensity and changes in consumption patterns. To test the reasonableness of this generalization,

then, requires qualification as to the village or occupational group being referred to, a qualification which would not be exceptionally fruitful if the seventy subjects were partitioned into four groups (by village and by occupation).*

Several interesting observations can be made, however, by considering the relationships suggested in each of the factors emerging from the three factor analyses.

The first observation is that the three Modernizing Potentials dimensions suggest three different, but somewhat similar portraits of modernization in both villages taken together, and each village taken separately. In the combined sample, as well as the two village samples, the modernizing individual has high education, is literate, is able to speak Spanish, is young, is highly exposed to the mass media, willing to participate in a course on new innovations, and is geographically mobile. In San Pablo, in addition to having the characteristics already mentioned, he has high farming innovation propensity, is satisfied with his present level of consumption, and is empathetic. However, in Siripaca he is a frequent user of the radio, has knowledge of radio advertssing, bought a radio before others in his community, and is a high consumer of essential goods but not of non-essential goods.

The second observation has to do with the Occupational Differences dimensions in both villages. In San Pablo, being a boater as well as a farmer is associated with high boating innovation propensity, high knowledge of radio advertising, frequent exposure to radio, having purchased a radio before others in the community, and holding a prestige standard based on "giving" rather than consumption. In Siripaca, however, being a boater/farmer is associated with high boating innovation propensity, and high consumption satisfaction. The conclusion to be drawn from this observation is that occupational differences within the two village samples accounts for much of the variability in each of those samples, but in each village the amount of variability accounted for is different. Thus, the effects of occupation on the entire sample are difficult to access, making interpretation more complex than if occupations had been homogeneous throughout the sample.

The third observation pertains to the Level of Living dimensions. The fact that all three indices of consumption patterns load highly on the same factor with

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* Breaking the sample into four samples by village and occupation would result in the following: twenty-three Siripaca farmers, five Siripaca boater-farmers, ten San Pablo farmers, and thirty-two San Pablo boater-farmers.

CHAPTER V

SUMMARY AND CONCLUSIONS

Summary

To promote the growth growth of the agricultural sector in underdeveloped countries, it is necessary to strengthen its links with the modern-urban sectors and to create a truly national market system in which the rural sector is a functioning and productive part. Rostow (1964) and others have suggested that increasing the counter-flow of goods and messages to the rural areas is crucial to this goal. The counter-flow of goods and messages is composed of consumer, and production-investment goods accompanied by a parallel flow of messages about the availability, desirability, and utility of these goods. In addition, there is a flow of messages from the modern-urban sector which provide a more general picture of the character of modern-urban life.

The impact which exposure to these modern-urban goods and messages will have on the rural sector is, in part, a function of the character of these goods and messages. But, more important, it is a function of the

economic, socio-psychological, and demographic characteristics of individuals in rural societies.

The main objective of the study was to determine the impact of exposure to modern-urban goods and messages on the modernizing behavior of rural-peasant farmers. More specifically, it was to explore the interrelationships among behaviors indicating exposure to modern-urban goods and messages, and in turn, trace their effect on consumption attitudes, innovation potentials, and differing patterns of consumption.

A questionnaire was devised to collect information about mass media exposure, knowledge of radio advertising, attendance at rural fairs, geographic mobility, age, language ability, empathy, consumption attitudes, and consumption patterns. This questionnaire was submitted to seventy respondents in two rural villages near La Paz, Bolivia. Several indices were constructed from this information and the results were analyzed using correlational and factor analytic procedures.

CORRELATIONAL ANALYSIS

To guide the interpretation of the correlational analysis, nine expected interrelationships were proposed. The general statement on which these expectations were based is as follows:

Exposure to modern-urban goods and messages constitutes a general orientation toward the modern-urban sector, and the different manifestations of this orientation will be highly interrelated. As a result of this general orientation, exposure to goods and messages originating in the modern-urban sector will act to change attitudes towards consumption in such a manner as to cause the traditional, rural individual to be more oriented toward consumption and, at the same time, to respect a similar orientation in his neighbor.

This new orientation toward consumption will then lead to a desire to better one's economic situation by becoming more receptive to innovations which might increase the productivity of the individual.

Parallel to this, a change in consumption attitudes will also be reflected in the individual's consumption patterns. He will tend to consume more goods of a productive or a non-essential nature in addition to those goods which are necessary for his survival. The consumption of productive goods will reflect his desire to improve his productivity, while the consumption of non-essential goods will reflect his desire to reap the fruits of that productivity.

The first expectation for the correlational analysis was that all of the indices of exposure to modern-urban goods and messages will be positively interrelated. In support of this expectation, significant correlations were found among all of the indices of exposure except Fair Attendance. Therefore, it was concluded that the higher levels of mass media exposure are accompanied by greater knowledge of advertising, and extensive mobility outside of the local village, but not by frequent fair attendance. The suggestion was made that Fair Attendance may not be a valid measure of exposure to modern-urban goods.

The second expectation was that the indices of exposure would be positively related to Language Ability and

Empathy, but negatively related to Age. The findings for this expectation confirmed that the higher levels of mass media exposure, greater advertising knowledge, and extensive mobility outside of the local village are accompanied by more education, literacy, and knowledge of spoken Spanish (Language Ability), as well as by youth. Empathy was not related to these measures. There was, however, some indication that Empathy is related positively to the indices of exposure in the Siripaca sample.

The third expectation stated that the relationships found above would not be due to the fact that these variables share a common variance with Economic Level. Partial correlations were calculated to check this possibility, and it was found that removing the effect of Economic Level did not appreciably alter the relationships found.

The correlations between Ad Recall and Recognition and the other indices of exposure were checked for possible spuriousness due to shared variance with radio exposure. Although the strength of the relationships were considerably reduced by partialling out Economic Level, they still remained above that level required for significance.

The same check was made of the correlations for Ad Recall and Recognition with Age, Language Ability, and Empathy. This time the correlations were reduced below the level required for significance, and the second expectation

results had to be modified to state that only Mass Media 'Use', Mass Media 'Yesterday', and Geographic Mobility are positively related to Language Ability and negatively related to age.

The findings presented in support of the first three expectations were relatively clear and easy to interpret. However, those dealing with the relationships between exposure to modern-urban goods and messages and consumption attitudes, innovation propensity, and consumption patterns were not clearly confirmed.

The last six expectations found little clear confirmation in the correlational data presented. There was no conclusive evidence that the indices of exposure to modern-urban goods and messages were negatively related to Consumption Satisfaction and positively related to a Consumption Prestige Standard. Furthermore, no evidence was found to suggest that Consumption Satisfaction is negatively related to innovation propensity, and little support for the belief that a Consumption Prestige Standard is positively related to innovation propensity.

In the Siripaca sample, some support was found for the expectation that the indices of exposure to modern-urban goods and messages are positively related to innovation propensity. Here, it was found that a high farming innovation propensity is accompanied by high mass media exposure and extensive geographical mobility, while a strong Course

Participation Willingness was accompanied by high mass media exposure. In the Siripaca sample, there was not conclusive support for this expectation,

The seventh expectation was that the indices of exposure to modern-urban goods and messages would be positively related to Production Consumption and Non-essential Consumption, but negatively related to Essential Consumption. In the combined sample it was found that high Productive Consumption is accompanied by high mass media exposure and extensive Geographic Mobility. None of the other findings were conclusive.

In the combined sample, evidence was found to support the expectation that Consumption Satisfaction would be negatively related to Non-essential Consumption, but positively related to Essential Consumption. No evidence was found to suggest that Consumption Satisfaction is negatively related to Productive Consumption as expected.

Finally, no evidence was found to support the expectation that a Consumption Prestige Standard would be positively related to Productive Consumption and Non-essential Consumption, but negatively related to Essential Consumption.

FACTOR ANALYSIS

Three factor analyses were calculated; one based on the correlations for the combined sample, and two based

on the correlations for each village separately.

In the combined sample factor analysis, four dimensions emerged: Village Differences, Modernizing Potentials, Radio Exposure, and Level of Living. The four factors explained 68% of the total variance for this factor solution.

The Village Difference dimension was composed of variables on which the two villages differed. The village portrait which emerged from this factor suggested that being a resident of San Pablo is associated with low consumption satisfaction, frequent fair attendance, low farming innovation propensity, working as both a farmer and a boater, low empathy, high boating innovation propensity, and holding a "giving" (rather than a consumption) prestige standard. The portrait of Siripaca is the mirror image of that for San Pablo.

The Modernizing Potentials dimension contained variables which referred to a set of skills, behaviors, and attitudes which are crucial to modernization. The portrait of a person with modernizing potential which emerges is that he has a high level of education and literacy, can speak Spanish, is young, is highly exposed to the mass media, willing to participate in a course about recent innovations, and is geographically mobile.

The Radio Exposure dimension contained variables suggesting that listening to radio a great number of hours per day is associated with extensive knowledge of radio advertising messages and being an early purchaser of a radio.

The Level of Living dimension contained items related to an individual's economic level. It suggested the conclusion that the different patterns of consumption are more highly related to one another and to economic level than to the other variables studied.

In the San Pablo sample factor analysis, three dimensions emerged: Modernizing Potentials, Occupational Differences, and Level of Living. The Modernizing Potentials dimension was similar to the like-named dimension found in the combined sample factor analysis. The main difference was that Farming Innovation Propensity, Consumption Satisfaction and Empathy also loaded high on this factor. The portrait of modernization in San Pablo that emerged was high farming innovation propensity associated with high mass media exposure, extensive geographic mobility, a strong course participation willingness, high consumption satisfaction, youth, and high empathy.

The Occupational Differences dimension contained variables which suggested that being a boater as well as a farmer is associated with high boating innovation propensity , high knowledge of radio advertising, extensive radio listening every day, being an early purchaser of a radio, and hold

a "giving" as opposed to a consumption prestige standard.

The Level of Living dimension contained Economic Level, the three different consumption patterns, in addition to Fair Attendance. This differed from the combine sample Level of Living dimension in that frequent fair attendance was associated with all of the indicators of economic level.

In the Siripaca sample factor analysis, three dimensions emerge: Modernizing Potentials, Occupational Differences, and Level of Living. The Modernizing Potentials dimension contains the same variables contained in the like-named dimension for the combined sample factor analysis. However, the radio exposure items and two of the consumption pattern indices also load highest on this factor. The modernizing portrait which emerges for Siripaca is of an individual highly exposed to the mass media, highly educated, literate and speaking Spanish, who listens to the radio frequently, has high knowledge of the advertising on radio, bought a radio before others in the community, is young, geographically mobile, does not consume non-essential goods but does consume essential goods, and is willing to take part in a course about new innovations.

The Occupational Differences dimension contained variables which suggested that being a boater as well as a farmer is associated with high boating innovation propensity,

and high consumption satisfaction.

The Level of Living dimension contained variables which suggested that productive consumption is associated with economic level. Consumption Prestige Standard also loaded highest on this dimension, but was almost insignificantly low.

Conclusions

The data presented in the correlational analysis and the factor analysis suggest the following conclusion: In the rural areas of developing countries, individuals with relatively high exposure to the mass media (radio, newspapers, movies, and books) are more educated, more literate, speak the "public" language better, are younger, and are more willing to learn about ways in which they can increase their occupational competence than other rural residents.

It has been suggested, however, that these individuals should also be distinguished by greater knowledge of radio advertising, frequent fair attendance, more dissatisfaction with their present level of consumption, having a prestige standard based on consumption rather than giving, having high farming and boating innovation propensity, greater empathic ability, and predispositions toward particular consumption patterns. But, the data provide no conclusive evidence for such expectations.

Several problems encountered in the interpretation of the data, however, suggest that it would be inadvisable to conclusively state that these dimensions should not be considered again in future research.

First, the heterogeneity of the sample studied was such that confirmation of any particular relationship was complicated by occupational and village differences.

Furthermore, this limitation when combined with the restrictions of a small sample size, made adequate investigation of the relationships within the various village and occupational subgroups extremely unfruitful. The sample size of each subgroup was so small that significance was rarely attained. Therefore, for future research it is suggested that because village and occupational differences are apparently important, provisions should be made for them. This can either mean that research will be limited to one village and one occupational group, or that the sample should be large enough to allow separate analysis of these subgroups.

Second, the operationalization of several concepts appeared to be inadequate. For example, frequency of fair attendance was chosen to reflect an exposure to modern-urban goods, while advertising recall and recognition was to measure exposure to messages about those goods. These measures, however, may be too general; what should probably have been measured is exposure to specific goods, and specific messages about those goods, which fall into the general class of goods originating in the modern-urban sector. The same can be said of measures of consumption patterns. They too may not have been specific enough to reflect alternative ways of disposing of one's income, This may become clearer if we state what might be a better conceptualization of the problem.

Generally, we were interested in the interrelationships among communication behavior, consumption behavior, and modernizing behavior in rural areas. It was suggested that the presence of modern-urban goods and messages in the rural environment would provide the incentives necessary to increasing productivity in this sector. Rural farmers would see and hear about consumer goods which they might buy, had they the means to do so. Being thus motivated to buy these goods, they would then also be motivated to increase the profits on their farms by trying new techniques.

If, this general statement is rephrased in the terminology used by Rogers (1963) in reference to the diffusion of innovations, an interesting reconceptualization of the problem becomes apparent.

For heuristic purposes, let it be assumed that all goods available in the rural sector can be classified as either consumer goods or investment-production goods, and that for each good in each class there are a series of five stages in the innovation process: awareness, interest, evaluation, trial and adoption (See Rogers, 1963 for a definition of these stages). Therefore, a farmer with money available has two alternative ways in which he can spend that money (on consumer or investment-production goods) and how he decides to allocate it will depend on which stage in the innovation process he is with respect to different goods available in the environment. The important point, however,

is that there will be a great deal of interaction between the innovation processes for each of the two classes of goods, as well as among the innovation processes for different goods within a class. An illustration may make this clearer.

Assume there is only one type of good available in each of the two classes from which the farmer may buy; leather shoes (consumer item) and a steel-tipped plow (investment-production item). The parallel innovation processes for these two goods, then, might occur as follows:

Consumer Goods Available in the Rural Sector	Investment-Production Goods Available in the Rural Sector
-Leather Shoes-	-Steel-tipped Plow-
The Innovation Process Leading To Adoption of Good	
Awareness	
The farmer learns of the availability of leather shoes from various sources; trips to the city, visits to rural fairs, conversations with friends, or advertising over radio, in newspapers, on billboards, etc.	The farmer learns of the availability of steel-tipped plows from various sources; from extension agents, vendors, friends; visits to fairs, advertising, etc.

Interest

No longer satisfied with the mere knowledge of the existence of leather shoes, the farmer begins to seek information about the price, quality, desirability, and utility of leather shoes. He is no longer passively exposed to information about leather shoes, but now actively seeks information. His interest in leather shoes may have been motivated by an increased income.

The farmer becomes interested in steel-tipped plows and begins to actively seek information about the price, quality, desirability, and utility of this good. This interest may have been energized by a desire to raise his productivity in order to raise his income. He may want some extra money to buy a pair of leather shoes.

Evaluation

This is the pro and con stage; where the farmer applies the information he has collected in the first two stages to his own particular situation. He says, "Do I need new shoes? Do I want new shoes? What kinds can I buy? How good are they? What do they cost? Can I afford them?" And if he wants them, but cannot afford them, he asks, "How can I earn the money I need to buy the shoes I want?"

The farmer begins to apply the information he has collected about steel-tipped plow to his own situation. He asks himself, "If I buy this new plow, can I use it to increase the amount of food I grow? Will my production be even greater than it was last year? Will I be able to sell this addition production? Will it bring me more profit? Will I earn more money as a farmer, and if I do, what will I do with the additional money?

Trial

The farmer buys a pair of leather shoes.

The farmer buys a steel-tipped plow.

Adoption

The farmer decides he likes his new shoes and will not sell them. He decides that owning leather shoes is worth the extra money he had to pay for them. He may even think about buying a second pair, if he can afford them.

The farmer discovers that using a steel-tipped plow adds to his efficiency, cuts down his costs, and helps him make a better profit. He decides to continue using this plow, and begins to consider what he will do with his added income.

The point of this illustration is to suggest that when questions arise during the interest and the evaluation stages, and when decisions are made during the trial and adoption stages, interaction between the two innovation processes will take place. That is, questions raised and decisions made leading to the purchase of a consumer good (leather shoes) will influence the type of questions raised and the decisions made leading to the purchase of an investment-production good (steel-tipped plow). The reverse, of course, is also true.

It is less likely, however, that interaction will occur during the awareness stage. Here there is little conscious effort on the part of the individual to seek out information or raise questions; information at this stage is more or less fortuitously encountered, i.e., in rural fairs, over the radio, in newspapers, etc.

What is being suggested here, then, is an elaboration of the Rostow thesis that the availability of consumer goods in the rural areas will function as an incentive to promote the adoption of progressive farming techniques. It adds a new dimension to both -- the dimensions of innovation stages -- and hypothesizes that interaction takes place when the adoption process for each class or type of good has reached a certain stage. We will now turn briefly to the possible nature of that interaction by offering two general hypotheses to be considered in future research.

1. Little or no intera tion will take place between consumer goods or investment-production goods innovativeness during the awareness stage. That is, being aware of certain consumer goods will not affect awareness of investment-production goods, and visa versa. (It is interesting to note that if this hypothesis is true, this may account for the fact that the data presented in this study did not confirm a relationship between Fair Attendance, Ad Recall and Recognition and the indices measuring innovation propensity. All of these indices constituted measures of "awareness" and did not reflect later stages in the innovation process.)

2. Interaction will take place between consumer goods and investment-production goods innovativeness in the interest, evaluation, trial, and adoption stages. For instance, making the decision whether or not to buy a pair of leather shoes involves asking the question, "Can i afford them?", and in an attempt to resolve the problem of not being able to afford them, an awareness of steel-tipped plows may move into the interest stage, and from there, through evaluation, possible trial and possible adoption.

These hypotheses are of course very general and much more rigorous definition and explication must be applied to them before they can be tested. It is enough to say, however, that they may provide some general guidelines for future research.

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