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THE CORRELATES OF COMMUNITY ECONOMIC DEVELOPMENT IN BRAZIL*

by

J. David Stanfield

The Concept of Community Development

We usually think of community development as involving some improvement for the residents of some geographically contingent group of families. "Development" could be the gradual reduction of infant mortality, the increased participation of the residents in group activities, the creation of community organizations or the achievement of a higher level of living. Most studies of community development have focused on how some change agency might best induce these or other changes in one or two communities.

Another approach to the problem is to examine the development level of several communities in order to compare the more developed with the less developed. The goal of such a comparison would be to discover the crucial variables involved in the process of development. Studies by Young and Young** have dealt with this problem by attempting to show for a large sample of communities that development of community institutions and communication ties with the outside world is measurable and cumulative in a Curtman sense. This approach involves treating the community as the unit of analysis and deriving group or aggregated measures for each community.

The examination of group characteristics in the analysis of change has been most common in studies of national development. Cutright,*** for example, illustrates

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**Frank W. and Ruth C. Young, "The Sequence and Direction of Community Growth: A Cross-Cultural Generalization," Rural Sociology, 27, pp. 374-386; and by the same authors, "Social Differentiation in Latin American Communities," Economic Development and Cultural Change, 13, (April, 1957), 304-352.

***Philip Cutright, "National Political Development: Measurement and Analysis," American Sociological Review, 28, (1963), pp. 253-264.

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the interrelated nature of political, economic and communications development of 77 nations. Lerner* similarly tried to establish some links between education, urbanization, communication and economic development.

This present paper attempts to apply this line of reasoning to development, but at the community rather than the national level. There are at least two reasons for the importance of this "community" approach to development. First in many less developed regions of the world, the nation is simply not an integrated unit. To take the nation as the unit of analysis ignores the lack of "nationness" in many nations. The community may well be the largest collectivity for which aggregation makes sense. Second, specific programs designed to stimulate development must have some locus of application, and since the "community"*** is often the largest viable collectivity in underdeveloped regions, the community is often the focus of these development schemes. Yet little is known about the characteristics of communities that most affect development.

As a result of these considerations, this paper will attempt the following: (1) a definition of community development in economic terms; (2) an exploration of the relationship of community economic development with other dimensions of development such as institutional and communications development discussed by the Youngs; and (3) a delineation of the structural, cognitive and attitudinal correlates of community economic development. In reference to this last objective, "structural" variables include the concentration of wealth and leadership in the community as well as the level of participation in organizations. "Cognitive" variables include the level of literacy, education and political knowledge in the community. "Attitudinal" variables

*Daniel Lerner, The Passing of Traditional Society, Glencoe: The Free Press, 1958.

**We take community to mean village in certain contexts. In Brazil, there are few rural villages where farmers live together and go out to their fields; rather the resident farms are typically spread out with minimum service provided by the nuclear center. Thus, "community" in this context seems more appropriate than village.

refer to the cultural climate of the community such as the degree of empathy, achievement motivation, interpersonal trust, and preference for community rather than exterior sources of information.

The data for this paper came from a virtual census of farm operators who live in and constitute 20 identifiable rural communities in the state of Minas Gerais, Brazil. Most of the data were collected in June, 1966, from an average of approximately 65 interviews per community. The communities were selected from a set of 76 communities studied six months earlier. These 76 were selected at random from the 200 state counties in which the state extension service operates. We calculated various indices relating to the community from the data collected in these individual interviews. In creating these indices, we tried to restrict the aggregating process to those phenomena which have some group import, some relevance to the community as a community, not just as a set of isolated individuals.

Measurement of Economic Development

We can broadly define the economic development of a community as the general level of economic well-being of the inhabitants of that community, their possession of various comforts of life and an income sufficient to purchase these comforts. With the goal of establishing an index of economic development, we created a series of 24 indices for the 20 communities in the sample. We calculated values for each of these economic indices for each community in the sample and correlated each index with all the others. These intercorrelations were then factor analyzed yielding the principal axis solution shown in Table 1:

Table 1. Principal Axis Solution

<u>Variable</u>	<u>Factor I</u>	<u>Factor II</u>
Percent with water filter	.831	-.066
Percent with tiled floor	.824	-.230
Percent with stove and chimney	.675	-.357
Percent with running water	.934 ¹	.039
Percent with bathroom in house	.940	.056
Percent with electricity	.909	.123

Table 1 (cont.)

<u>Variable</u>	<u>Factor I</u>	<u>Factor II</u>
Percent with radio	<u>.935</u>	-.071
Percent with motor vehicle	<u>.889</u>	.277
Percent with some agricultural machinery	<u>.732</u>	-.059
Percent with house in town	<u>.667</u>	.435
Mean income	<u>.864</u>	.414
Percent selling more than 50 percent of prod.	<u>.696</u>	-.469
Percent spending most of time prod. for sale	<u>.668</u>	-.484
Median area in pastures	<u>.743</u>	.173
Median number of cows	<u>.769</u>	.303
Median farm size	<u>.888</u>	.074
Percent who sought a loan	<u>.785</u>	-.053
Percent with property	<u>.332</u>	-.301
Percent with off-farm income	<u>-.030</u>	.155
Percent buying supplies mostly from Coop	<u>.046</u>	.816
Mean no. of different crops grown	<u>.487</u>	-.242
Average proportion of income reinvested in property	<u>.524</u>	-.219
Percent planting 10 or more hect. of pastures	<u>.409</u>	.801
Percent of people owing most of income to ownership of land	<u>.776</u>	-.337
Eigen value*	12.674	2.877

¹Underlining indicates that the item is very highly loaded on the factor

From Table 1 we can see that the first factor accounts for approximately 50 percent of the variance with the next factor accounting for only 10 percent. This fact, plus the high loadings on the first factor, indicates that there is a predominate dimension with which most of the indices are correlated highly. We can arbitrarily call this dimension "community economic development" since those variables loading most highly on the factor are those dealing with the possession of various comforts, the income level, and farm size, all of which fall within our original definition of economic development at the community level.

Using the information presented in Table 1, it is possible to develop an economic ranking of communities in our sample. The highest loading indices are the four that

*The Eigen value is a measure of the covariance of the factor with all the other variables.

are underlined in Table 1, i.e. the percent of people that have running water in the home, the percent with a bathroom in the house, the percent with electricity, and the percent with radio. The single best indicator of the dimension we call economic development would be the one with the highest loading which is the percent of people with a bathroom in the house, at least for our sample from rural Brazil. While an adequate index of relative economic development would be this single item, a more reliable one would be some combination of the best indicators such as a simple or weighed average. We computed a simple average across four* of the highest loading items and recorded the value for each community as a measure** of its relative economic development.

Since four items constitute the overall index, it is useful to see how these items are themselves correlated. Table 2 presents these intercorrelations.

Table 2. Intercorrelations of four items used in Community Economic Development Index

Possession of:	1	2	3
1 Running water			
2 Bath in house	.964*		
3 Electricity	.910*	.939*	
4 Radio	.864*	.871*	.829*

*Significant beyond the .005 level for a sample of 20. We speak of significance in this paper more to distinguish high from insignificant correlation for this size sample. The sampling of communities was not wholly random, since we wanted communities with a five hour drive from the research headquarters.

Other Dimensions of Community Development

Young and Young*** approached the problem of community development by examining the degree of institutional differentiation and the level of external communication. We also have data on these variables and are able to examine the interrelationships

*We limited the index to four items because the inclusion of other high loading items would needlessly complicate the index. In keeping the measurement relatively simple we hoped that it would be easier for the extension service to apply the concept of development in their future work.

**This general index has a mean of 43.4% and a standard deviation of 23.7. Its range is from 11 to 85.

***Young and Young, op. cit.

between them and economic development.

Institutional Development

Our data on institutional and communications development come from observations, usually made by the local extension agent, on whether ~~exist~~ the community as a whole has certain institutions and communications or not.*

"Institution" is broadly defined as a place or organization that the community's inhabitants use for their mutual benefit. Nine "institutions" were checked as to their presence or absence in each of the communities in our sample. The percent possessing each institution is indicated in Table 3.

Table 3. Distribution of Possession of Nine Community Institutions

Institution	Percent Having
1. Soccer field*	76%
2. Primary school	75
3. Central plaza	61
4. Barber and/or barbershop	56
5. Store*	40
6. Bar	38
7. Some governmental office (post, tax, etc.)	20
8. A butcher shop*	17
9. A voting place*	15

*Eliminated from the final scale

If we subject these nine items to a Guttman analysis a Coefficient of Reproducibility of 91.0 results. However, since we have two items which less than 20 percent of the communities possess, this coefficient could be artificially inflated. Dropping these two items and item 1 (the soccer field, which minimally meets our definition of institution and which contains substantial error), a C.R. of 91.0 also results. Of

*The data pertain to 76 rural communities in the state of Minas Gerais, which were briefly studied approximately six months before the census interviewing was done in 20 of the 76. Although most of our community indices are relevant only to the subset of 20, their values on the two Guttman scales are relative to the whole sample of 76 communities. For a complete report of these data, see Gordon Whiting et. al., Innovation in Brazil: Success and Failure of Agricultural Programs in 76 Minas Gerais Communities, Diffusion of Innovations Research Report 7, Department of Communication, Michigan State University, January, 1968.

these six final items, "the store" contains most error, more than twice that which any other item contains. This item error means that there are some communities that have a store but do not have a barber or plaza or school or some combination of these three more frequent items. This is to be expected since the existence of a store depends in part on how near the community is to another marketing center. But there is also error in this item resulting from the absence of a store as such where the community has a bar and sometimes other community services. Such "error" might result from the observer being uncertain whether a store is only a store, or a bar only a bar, since these two types of establishments are often housed under the same roof in rural areas. If we eliminate this item, the store, also from our institutional development index, a C.R. for the remaining five items of 95.0 results. Of the four items we have eliminated, two had low frequency of appearance in the communities and two exhibited high error. For the high error items, the soccer field probably exists or does not exist independently of the factors that affect the existence of the other institutions. The store probably was confused with a bar in many instances, or its functions might have been assumed by shopping areas nearby.

Communications Development

As in the case of institutional development, we used the ideas of Young and Young to develop an index for the degree of communication development. To this end information was gathered from the communities as to the presence or absence of 10 "media" of communication, as is shown in Table 4,

Table 4, Possession of Means for Receiving Information from Outside Community

<u>Media</u>	<u>Percent Having</u>
1. At least one road passable all year around*	88%
2. Majority have at least one relative in large city*	72
3. At least one T.V. channel receivable	65
4. Transportation for crops always available*	65
5. Bus at least five times a week	60
6. Someone who visits state capital at least once per month	42

Table 4 (cont.)

<u>Media</u>	<u>Percent Having</u>
7. Majority visited capital at least once*	39
8. Postal service	27
9. Telephone or telegraph with state capital	22
10. Bus station in community*	18

*Eliminated from final scale

For these 10 items a Guttman coefficient of reproducibility of 86.7 results, indicating that there is not a unidimensional scale for communications development. If we then eliminate the two media that either 80 percent of the communities have or do not have, items 1 and 10, so as to reduce possible inflations of the coefficient, and at the same time eliminate the most erroneous item, item 7, "a majority have visited capital at least once," the coefficient climbs slightly to 88. Substantial error still remains. By eliminating the next most erroneous item, item 4, we find a six item scale with a C.R. of 89.5. Finally, by eliminating the next most erroneous item, item 2, we get a C.R. of 91.3 which does meet the criteria for a unidimensional scale.

Two items were eliminated because of the high percentage of communities either having or not having the media. These items probably could be readmitted if a more sensitive scale were desired, especially at the extremes. Three other items were eliminated on the basis of the errors they exhibited when placed with the other items in the scale. The eliminated items were: "A majority have at least one relative in a large city", "A majority visits the state capital at least once per month;" and "Transportation for crops is always available." The first two items probably have little to do with communication media, although item 6 was retained and is similar in content. Mere transportation for crops being available also may not have much to do with the media of communication. Certainly it is not clear that these items should disappear as the community reaches higher development levels, as might be the case for

same "development" scales.* Moreover, the five remaining items do appear to be homogeneous in content, at least to a degree.

From Tables 3 and 4 we have some evidence for the existence of a ranking of communities on a cumulative scale of institutional and communications development. Table 5 presents the interrelationships of these two types of development with economic development as measured by the percentage of possession of various household items.

Table 5. Intercorrelations of Three Dimensions of Community Development

	1	2	3
1. Institutional Development			
2. Communications Development	.233		
3. Economic Development	.087	.562*	

*Significant at the .005 level

The only statistically significant correlation to appear is that between communications and economic development, which indicates that at a given point in time, the more the communication system of the community is linked with the outside world, the higher the level of economic development. This finding is supported if we construct aggregate measures of individual exposure to newspapers, radio, television and cinema. The correlations of these aggregate measures with development are: newspaper exposure, .768; radio, .618; television, .812; and cinema, .705; all quite high. These aggregate measures are the proportion of people who have high exposure to the media.

Certainly there is no pure causal link between these variables since the economic capacity of a community determines to an extent how many newspapers, radios, television sets and movie tickets are bought; and contrarily, exposure to the external world

*For a discussion of this problem see Robert K. Leik and Marilyn Mathews, "A Scale for Development Processes," American Sociological Review, 33 (February, 1968) pp. 62-75.

through these media probably induces individuals to greater effort to attain the economic rewards available. Nonetheless, the relationship is strong, and perhaps future research might show that development can be stimulated by increasing the communities exposure to the outside world through the various communication media.

The lack of a correlation between institutional and economic development is somewhat puzzling. The economic capacity to create and maintain institutions would seem important to institutional development, yet we find no correlation between the two variables. One explanation might be that some communities are satellites of larger economic centers which supply the institutional needs of the community. To check for this possibility, a partial correlation between institutional and economic development was calculated partialling out the distance the community is from the nearest commercial center. This partial correlation drops even closer to zero, .03, than the original correlation of .087, thereby indicating that distance from a larger commercial area does not influence the original correlation. An examination of the scatter plot of the relationship between institutional and economic development shows no curvilinear relationship to account for the low zero-order correlation. Rather, it appears that a community with all the institutions in our scale may be rich or poor; we gain no knowledge of the economic level of the community by knowing its level of institutional development. Perhaps the "institutions" in our scale depend on other factors such as political ties rather than economics. Exactly what factors determine this institutional development await further research.

Returning to the original problem of community economic development, we now propose to examine three sets of "predictor" variables that we somewhat arbitrarily call structural, cognitive and attitudinal. We hope to discover what differentiates the less from the more developed communities and outline how this information might be useful in change programs.

Structural Correlates of Economic Development

We first propose to examine two conceptually different aspects of community structure: (1) the degree of concentration of wealth and leadership in the hands of the few; and (2) the degree of organizational participation on the part of the populace. Many observers of the political scene in underdeveloped rural areas claim that a principal evil is the concentration of wealth, land and economic privilege in the hands of a very few men. They claim that the large, wealthy land owners do not use their land to its full economic capacity, and that the near poverty level of the laborers on these lands precludes their participation in the economic life of the nation. Further, the extremes of wealth and poverty create a fertile ground for violence--both revolutionary and counter-revolutionary. This argument presents the case for the concentration of wealth inhibiting economic growth, with the conclusion being that for development to occur, this concentration must cease.

On the other hand, there is the argument that in the poorer regions, the only economically viable farm is the large plantation and that the dissolution of these large units would be an economic catastrophe. This argument also claims that there is a relationship between the concentration of wealth and economic development, but that the causal direction is from economic development to concentration and not the other way around. Determining which position is correct is probably best left in the hands of the politicians concerned. However, from both sides we have substantial support for hypothesizing that there is a negative correlation between development and wealth concentration, that when low development exists, so does high concentration of wealth in a few hands, and contrarily, when there is less concentration of wealth in a community, there will be greater economic development.

As in the case of the concentration of wealth, the concentration of leadership may be an important correlate of economic development. The exact way that leadership concentration is related to development is not clear, however. It would seem that

if the leadership of a community were in the hands of one or two men, the direction that the community moved would depend on their preferences. If the leaders showed a desire to incorporate change and the advantages of the modern world, it should be easier to attain these goals than if the leadership were diffuse and in the hands of many. The definition of leadership, however, might play a crucial role here. In our study each farmer was asked what their people in the community were most listened to concerning various agricultural practices; the number of nominations each farmer received was considered his leadership score. In this instance, in a poor community with few outside contacts, there might be just a few people with the information needed by the other farmers; in the rich community, however, with a number of individuals getting information from the outside world relating to agriculture, there might be less concentration of this "opinion" leadership. Thus, we would tentatively hypothesize a negative correlation between leadership concentration and development.

The final "structural" variable under consideration is the participation of the populace in organizations. We would argue that the creation and maintenance of organizations pertinent to the lives of these rural people should help funnel innovations to them as well as help them formulate their needs for expression in the market and government, thereby helping to increase the level of economic development. Conversely, a high level of development should facilitate the maintenance of these organizations and the creation of some leisure time for participation in them. This interdependent relationship leads us to hypothesize the positive correlation of organizational participation and economic development.

Before we can test these expected relationships of the structural variables with development, however, some means for measuring them must be derived. For the two concentration measures, we calculated a form of the Gini-ratio for each community which in essence distinguishes between communities on the basis of how many people share the

leadership or wealth in each community.* Individual wealth was measured by the size of the respondent's farm, estimated income; and his level of living. Individual leadership was measured as the relative number of sociometric nominations each person received from all the other persons in the community in response to questions like "who in this community is more listened to regarding agriculture and farming?" To measure individual participation in organizations, we asked each person how many organizations he belonged to other than the local cooperative. The expected correlations of these three structural variables with economic development level and the actual correlations are presented in Table 6.

Table 6. Structural Correlates of Economic Development

<u>Variable</u>	<u>Hypothesized Relationship</u>	<u>Correlation</u>
1. Opinion leadership concentration	negative	-.662*
2. Wealth concentration		
Land	negative	-.794*
Income	negative	-.710*
Level of Living	negative	-.633*
3. Organizational participation	positive	.368

*Significant at the .005 level

The correlations in Table 6 bear out our expectations relating the concentration variables to economic development. There are strong negative relationship between the three measures of wealth concentration and economic development. Such a finding has serious implications especially for land redistribution programs as possible stimulants to economic growth.

Opinion leadership concentration also correlates negatively with development giving some support to our arguments that in the more developed communities where

*See Gene Wunderlich, "Concentration of Land Ownership," Journal of Farm Economics, XI, No. 5, (1958), 1887-1893. The ratio is sensitive to the cumulative distribution of people for a given variable so that a highly skewed cumulative distribution indicates the concentration of that variable in relatively few hands.

there are more opportunities for getting information from the outside world more people share the opinion leadership chore. However, this interpretation calls in a third variable to explain the simple correlation between the two variables of leadership concentration and development, namely external contact. We tested two such external contact variables, communications development and contact with the extension service, by partialling out their effect on the zero-order correlation between leadership concentration and development. In the case of communications development, the correlation is reduced from $-.662$ to $-.565$ when its variance is removed, thereby giving some support to the notion that the level of communication with the outside world is behind the high correlation between concentration and development. However, the reduction in the correlation is not very great.

A second "external" variable is the amount of contact the community has with the extension agent servicing the area; when this agent contact is partialled out of the relationship, it drops from $-.662$ to $-.262$ which is substantial. This situation could arise from the extension service's policy to work only with highly developed and homogeneous leadership communities, or the extension service could in fact be widening the available information sources in the communities. For whatever reason, either because of a policy to work in communities with low leadership concentration or because the agency actually spreads information more widely in the communities in which it works, the correlations are high between extension agent contact, leadership concentration and economic development level. More detailed research attention should be given these relationships to determine exactly how the variables are causally related.

The correlation between organizational participation and development is apparently quite weak, although in the hypothesized direction. If we consider data from the leaders of the communities only (designated as such by formal organizational leaders in the community and county), the correlation rises to $.511$ which is statis-

tically significant, although its importance is clouded by the low correlation based on data from all the individuals in the communities. Perhaps the low correlation of the community-wide measure is analogous to the low correlation of institutional development with economic development discussed earlier. The organizations that exist may simply be traditional ones that have little to do with development where membership in these organizations is little more than ritual or a means of socializing with the neighbors. Perhaps further investigation into these organizations and how they relate to development might clear up the situation.

Cognitive Correlates of Economic Development Level

As in the case of the structural variables, we have essentially three cognitive or educational variables: (1) literacy level of the community, (2) its education level, and (3) its knowledge about political symbols on the state, national, and international planes. From the theorizing about literacy* that is available, as well as the information available about the importance of education,** we would hypothesize that there should be strong positive relationships with economic development. From studies such as that done by Cutwright*** at the national level, we would expect a strong correlation between political knowledge levels and economic development. The general theoretical rationale for the importance of literacy and education to development center around the need for training in symbol manipulation as well as more technical training in the mechanical and agricultural arts in order for development to occur. As for political knowledge, we might expect an ever growing awareness of activity at the state, national and international level as the community grows

In a summary of this literature

*See William Herzog, Literacy Training and Modernization: A Field Experiment, Diffusion of Innovations, Technical Report 2, Michigan State University, November, 1967.

**See C. A. Anderson and Mary J. Bosman (eds), Education and Economic Development, Chicago: Aldine, 1965.

***Cutwright, op. cit. See also Vincent Farace.

economically and increases its ties with these "higher" levels of organization.

The measurement of these variables relies on the proportion of people who are literate (as measured by the number of words an individual can actually read from a prepared text), the proportion who have some education at all, and the proportion who are able to respond correctly to questions like "Who is the governor of this state?" or "What Latin American country recently turned communist?" The results are presented in Table 7.

Table 7. Cognitive Correlates of Economic Development

<u>Variable</u>	<u>Hypothesized Relationship</u>	<u>Correlation</u>
1. Level of literacy	positive	.884*
2. Proportion with some education	positive	.889*
3. Proportion knowing governor	positive	.879*
4. Proportion knowing of Cuba	positive	.827*
5. Proportion knowing of deposed president (Jango Goulart)	positive	.812*
6. Proportion knowing the name of one political party	positive	.861*

*Significant beyond the .005 level

These "cognitive" correlates of development, although consistently quite high, are not overly surprising given the amount of previous research on the national and individual levels of analysis. The findings here, however, support the aggregation and analysis at the community level which conceptually lies somewhere between the individual and the nation, and which is relatively unexplored.

The main implication for development schemes appears to be the importance of educational and literacy training programs. Of course, these data merely show the covariation of the variables studied and not which causes which. It may be the case that higher levels of development enable communities to support schools and at the

same time encourage the retainment of literacy skills. With development also probably comes greater exposure to the outside world and the knowledge of political events indicated in the political knowledge questions. Or, as is probably the case, there is a two-way road from development to the increase of cognitive skills, and if a prime goal of development efforts is the increase in community economic well-being, then the circle might well be broken into by increased efforts at educating the populace and increased emphasis on literacy training programs. Knowledge of and participation in the political system along with increased economic development could well be the result.

Attitudinal Correlates of Economic Development Level

The two previous categories of variables relate to the general structure of a community, how it is organized and the wealth divided and how developed its educational and knowledge systems are. We propose to examine now the general attitudinal climate within which the structure and cognitive systems operate. These are the beliefs by which the people presumably organize their lives and limit the problems they face.

Past theorizing concerning attitudes and development has been focused on the individual or more commonly on the nation. Where the individual is the unit of analysis, the researcher generally tries to create a typology of the "modern" or "traditional" personality with at times a description of the "transitional" personality as intermediate between the traditional and modern.* The theorists dealing with nations expand this line of reasoning to the nation by postulating traditional, transitional and modern nations, each of which exhibit its "typical" personality type.**

Both of these approaches have deficiencies. At the individual level, the theorist usually has no well defined dependent variable. What is it that the "modern" person does to increase his own well being and that of those around him, if that indeed is

*Examples of this approach are Lerner, op. cit., and Everett M. Rogers, (forthcoming book).

**This strategy is exemplified in Lerner, op. cit.

the goal? If it is quite difficult to measure the attitudinal dimensions that constitute the traditional or modern personality, it is doubly more difficult to relate these dimensions to modernization because of the lack of conceptual clarity about this modernization of the individual. Exactly what is a modern person?

At the national level, it is relatively easy to decide on the variables that measure development of nations, with some indicator of economic comfort usually chosen. However, the principle problem lies with the attitudinal or personality measures. Usually there is so much variation in the nation that it is impossible to demonstrate the existence of a "typical" attitude or personality.*

We hope at least to diminish these difficulties with analysis at the community level. On the one hand, we have an apparently adequate dependent variable in the measure of community economic development. On the other hand, we have much more evidence about the exact distribution of personality or attitudinal measures in a community since we have interviews with nearly every person in the system. Certainly, the variability at the community level should be substantially less than at the national level, or at least better known to the investigator. In the microcosm that is the community, perhaps we can more clearly discover the attitudinal patterns that are most associated with development.

What, then, are the crucial variables that we must consider? Lerner** postulates the importance of the capacity to empathize as crucial for enabling the traditional population to participate in the modern nation. Because of the rapid changes occurring and because of the great changes that have already occurred, some capacity to accept the unknown, to adjust to the radically different, to deal with strange roles and persons, may well be important. Thus we would expect the empathy level of the com-

*See Milton Singer, "A Survey of Culture and Personality Theory and Research," in Bert Haplan (eds), Studying Personality Cross-Culturally, Evanston: Row, Peterson Company, 1961.

**Lerner, op. cit.

munities in our sample to be correlated positively with the level of economic development.

McClelland* attempts to show, again at the national level, that the achievement motive is positively associated with national development. He argues that the essential psychological mechanism behind development of nations is the desire of the populace to achieve some standard of excellence. Presumably, in economic terms, that standard is economic excellence. Thus, we would expect a positive relationship between economic development and the desire to achieve.

Other theorists, in studies within a single community, have concluded that an important block to development is the high level of mutual distrust of people living in traditional areas, that this distrust precludes communal action so necessary because of the lack of individual means to better their lives.** From these notions we might expect that distrust is negatively correlated with development, or conversely, trust is positively correlated with economic development.*** Earlier theorists such as Marx**** were uneasy about the effects of development on community life, about the possible dissolution of interpersonal bonds as industrialization infiltrates into the nation's rural communities. They would, perhaps, postulate an inverse correlation between development and interpersonal trust on the grounds that increasing wealth opens the door to increased competition and interpersonal conflict. Along these lines, the argument might be that in poverty people have no alternative to the absolute rejection of conflict and the adoption of a cultural pattern that assures the predominance of trust, at least within the community. Increased wealth, however, brings class

*David McClelland, The Achieving Society, New York: D. Van Nostrand, 1961.

**See George M. Frazer, "Interpersonal Relations in Peasant Societies," Human Organization, 19: 174-178, 1960-61.

***See also Lucian Pye, Politics, Personality, and Nation Building, New Haven: Yale University Press, 1962.

****See T. B. Bottomore (ed), Karl Marx; Selected Writings in Sociology and Social Philosophy, New York: McGraw-Hill, 1954.

conflict. In weighing these arguments, since the bulk of the empirical evidence appears to argue for a positive relationship between trust and development, we shall so tentatively hypothesize.

A final attitudinal variable pertains to the preference of the community in general for local, within-the-community sources of information pertaining to agriculture rather than for external sources such as the extension service and the mass media. Since development or change generally arrives from outside the community and since, conversely, the developed community has more resources to experiment with the new ideas from the outside, we would expect a negative correlation between the preference for internal, local sources and community economic development. Of course, this variable, like the others discussed above, is a relative one; there may be an absolute preference in all communities for the local sources, but for some, this preference will be less noticeable than for others.

A word on the measurement of these variables is in order before we proceed to a discussion of the data. In the case of empathy, we asked each respondent "What would you do if you were X?" There were three figures used in the place of "X", the extension agent, the mayor of the municipio (county), and the president of the country. The questions were open-ended so that independent observers coded the responses in terms of their specificity and reality. "Don't know" or irrelevant answers were coded "0", with higher codes used to distinguish between less and more empathic responses. The community measure was the proportion of non-zeros among the communities' respondents for each of the three objects of empathy.

The motive for achievement was measured as the proportion of people who responded to questions so as to indicate the presence of this motive. The questions, roughly translated, were "It is better to be content with the little one has than always to be struggling for more"; "The way things are nowadays makes it discouraging to work

hard;" and "I like to try my hand at something really difficult, even if it is only to prove to myself that I can do it." A disagreement with the first 2 items and agreement with the third indicated more of the achievement motive.

Interpersonal trust was measured by the proportion of people that chose the alternative "trust" in the question, "When you deal with your neighbors, do you think it is best to trust, or trust which at the same time distrusting?" Another question was "Do you think the majority of people are honest or dishonest?" The proportion of people who said "honest" was used as the measure for community of this aspect of trust.

The measurement of the preference for internal or external sources was somewhat more involved. We presented a series of paired comparisons to each respondent with the question being "Which do you trust more when it comes to new ideas about farming in general?" Among these alternatives were that between "neighbor" and "agronomist or veterinarian" and between "neighbor" and "radio". The proportion choosing "neighbor" was used as the measure of preference for internal, local sources over external ones such as the agronomist or radio.

Table 8. Attitudinal Correlates of Economic Development

<u>Variable</u>	<u>Hypothesized Relationship</u>	<u>Correlation</u>
1. Empathy		
a. With extension agent	positive	.532**
b. With mayor	positive	.452*
c. With President of Brazil	positive	.202
2. Need for Achievement		
a. Preference for struggle over satisfaction	positive	-.307
b. Liking of work	positive	.337
c. Liking of a challenge	positive	.771***
3. Interpersonal trust		
a. Trust neighbors	positive	-.678***
b. Majority of people honest	positive	-.165
4a. Preference for internal sources over agronomist	negative	-.624***
b. Preference for internal sources over radio	negative	.058

*Significant at the .025 level

The results in Table 8 are mixed. In the case of empathy, a significant but low correlation emerges for development with empathy with the extension agent and the mayor of the county or municipio while no relation exists for empathy with the president of the country. If we consider this variable more as "imaginativeness", since the questions ask for creative answers about what the respondent would do if he were the agent or mayor or president, the lack of correlation in the case of the president could be explained by the "distance" the imagination has to stretch from the rural community to the presidential palace. In any case there appears to be some evidence of a relationship between the empathic level of a community and its level of development. . Lerner* hypothesizes that increases in literacy and exposure to the mass media lead to increments in this capacity to place oneself in another's role which in turn aids in the development process. Our data show that there are correlations among these variables (see Table 9).

Table 9. Correlations of Literacy, Newspaper exposure, Empathy with mayor, and Economic Development

	1	2	3	4
1. Literacy				
2. Newspaper exposure	.658			
3. Empathy with mayor	.490	.581		
4. Economic development	.884	.768	.452	

The correlation between empathy and development drops from .452 to .114 when exposure to newspapers is partialled out, which indicates that empathy's correlation with development can be explained from the covariation of newspaper exposure with the variables concerned. This is not to say that empathy does not cause development, just that the case is not proved. The fact that there is covariation among the variables indicates that the measurement is not random and that some increase in empathy or imaginativeness is associated with development.

*Lerner, op. cit.

In the case of achievement motivation, the results are less clear than for empathy. For two of the items, no significant relationship emerges and one correlation is even slightly negative. For the third item, however, the correlation is quite high indicating that there may be some support for the hypothesized relationship between need for achievement and economic development. However, because of the mixed pattern, further investigation seems warranted.

The case for interpersonal trust and development appears to be opposite to that hypothesized. Both correlations are negative with one being highly significant, which says that in the more highly developed communities there is less trust of others in the community than in the poorer communities. We note that the alternative quasi-marxian theory predicted this result.

There are several ways this correlation can be interpreted. First, as mentioned earlier, poverty may force the trust of one's neighbors since the alternative is open conflict in a situation where conflict could destroy all concerned. There is no margin for isolation, no room for the luxury of conflict. As development progresses, conflict becomes economically possible.

A second interpretation is that the very process of development may create the class divisions of which Marx spoke, pitting neighbor against neighbor in a struggle to get more when it becomes possible for more to be gotten. Only economic gain, the cash nexus, is important with personal relationships falling by the wayside.

A third possibility is that these communities may be on the low end of the development continuum where this negative correlation is quite strong, but as they progress to higher levels, the correlation may be reversed and trust become more prevalent when the competition for scarce resources is made irrelevant by enough being available for all.

The first two explanations posit two different views of human nature: the first says that man is by nature avaricious, and that when economic restraints on this

avariciousness are removed, his true nature emerges. The second explanation argues that man may be basically a social animal but economic forces in society destroy his sociability and money becomes the force that ties people together while at the same time driving them into class war and societal collapse. The third view argues that these strains on human relationships may well ensue in the early stages of development, but as the group solves the economic problem for its members, the strains begin to disappear and mutual trust and respect re-emerge. Data showing which alternative is accurate will have to await a re-study of these communities some time in the future, assuming that development proceeds apace.

Yet a fourth interpretation of the data is possible, namely that this variable of trust is actually measuring a preference for local people, a view that holds the community as the center of the universe. As development progresses this localite view is replaced by a wider interest that is expanded by the contacts the individuals have with the outside world. This interpretation of trust of neighbors as a localite orientation implies that it should be correlated with other manifestations of this orientation, in particular negatively correlated with exposure to the mass media, knowledge of exterior political events, but positively correlated with a preference for local sources over exterior ones like the extension agent. Table 10 presents these correlations which turn out to support this notion of trust being a manifestation of a localite orientation.

Table 10. Correlation of trust of neighbors with Media exposure, Political knowledge and Local source preference.

	Trust of Neighbors
1. Newspaper exposure	-.367
2. Radio exposure	-.401
3. T.V. exposure	-.703
4. Cinema exposure	-.537
5. Knowledge of Governor's name	-.725
6. Knowledge of a political party	-.634
7. Preference of local source over extension agent for agricultural information	+.512

The localite, high trust community is one that has low exposure levels to the mass media, especially to television and cinema, little knowledge of political figures and organizations, and a preference for local people as sources of agricultural information rather than the extension agent. This interpretation of trust as an attitudinal manifestation of a general localite orientation does not negate the explanations directly relating development and trust discussed above. It merely widens the scope of the investigation to other aspects of the community such as mass media exposure levels, political knowledge and source preference. However, the fact remains that the effects of development on interpersonal relationships may be debilitating, that development is not in every way the "good" some people feel it is.

Finally, pertaining to source preference we note from Table 8 that a preference for internal sources over the agronomist is negatively correlated with development while there is no correlation between the preference for local sources rather than radio and development. The latter comparison may not be a valid one since the radio is not exactly a source, but rather a medium for sources to use. In the case of the agronomist, the relationship is clear. A community closed in upon itself is not an economically developed community, while a community that prefers information from a trained agronomist over local people tends to be a developed community.

Summary and Implications for Future Research

By way of summary, the following profile of an economically developed community seems to emerge, where economic development is defined as the community's average possession of inside bathrooms, running water in the house, electricity, and radios. The economically developed community has more contacts with the external world, more exposure to the mass media; it has a larger number of people acting as sources of information on agriculture; wealth is more evenly spread through the populace; a large proportion of the people are literate, have some education and know about

national and international political events and figures; a larger proportion have empathy with the extension agent and the mayor of the county, a need to excel or at least a liking of a challenge, a distrust of their neighbors, and a preference for agricultural information from a trained agronomist rather than relying wholly on local people.

We are able to distinguish between the more and less developed communities using these variables, and yet we are not able to say exactly how the development process occurs. In most instances the relationships are interdependent: development may lead to greater contact with the outside world, for example, and at the same time this greater exposure may stimulate development. Recommendations to agencies that want to develop communities are limited by this interdependence; in a sense development cannot increase in rate until some development already has begun. Nonetheless, the circle of interdependence might be broken at several points: education and literacy campaigns might be one way, land redistribution another if the conditions are right, increased information inputs by the mass media and the extension service yet another method to stimulate economic growth.

A principal research implication of this study is the need for data over time, preferably when one or more of these independent variables are manipulated (on a small scale admittedly). Some information about the causal patterns is badly needed if helpful action is to be taken to stimulate the development process. Yet another implication is the need for more studies on the effect of development on interpersonal relationships and on attitudes relating to these relationships to help evaluate the change that occurs and perhaps to guide it.