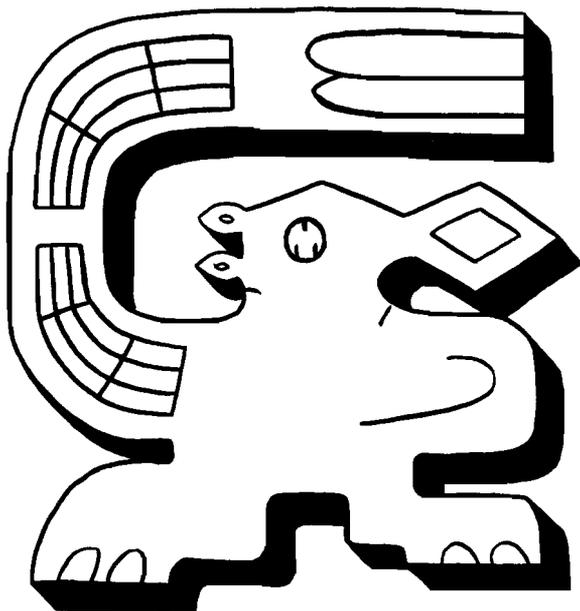


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The Minifundio Problem in Colombia:  
Development Alternatives

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## The Minifundio Problem in Colombia: Development Alternatives

BY JAMES E. GRUNIG \*

Several alternative policy approaches have been suggested as solutions for the minifundio problem in Colombia. The first — commercialization of large farms to provide opportunities for peasants — has been discounted by a latifundio study recently published in this journal.<sup>1</sup> The second approach is just the opposite: land reform to take land from latifundistas and distribute it to peasants to create medium-size family farms. A third type of program would intensify the existing small units through changes in crops and technology, provision of credit, promotion of marketing cooperatives, and construction of roads, schools and other infrastructure.

A fourth alternative — colonization — is a popular alternative to land reform in countries like Colombia where re-distribution of land is politically difficult. Under colonization schemes campesinos are moved to unused frontier areas where they are given or helped to purchase land, at times with complementary public and production services. The fifth and last alternative is migration from rural to urban areas where campesinos would be given work in industry and service trades. This alternative is well known in Colombia as *Operación Colombia*, as formulated by Lauchlin Currie.<sup>2</sup>

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<sup>1</sup> James E. Grunig, "Economic Decision-Making and Entrepreneurship Among Colombian Latifundistas," *Inter-American Economic Affairs*, Vol. 23, Summer 1969.

<sup>2</sup> This alternative is formulated in Lauchlin Currie, *Accelerating Development: The Necessity and the Means* (New York, McGraw-Hill, 1966).

In this study we will determine factors which make a small farm successful in Colombia and then suggest which or what combinations of the above alternatives have been or could be most useful in bringing about that success. In advance, we will reject the fifth alternative — migration to cities. This is because available evidence clearly shows that sufficient employment opportunities do not now exist and that it will be many years before industrialization will have advanced to the stage where it can draw much labor out of agriculture.<sup>3</sup>

To some extent, most of the other alternatives are being discussed at present within Colombian agrarian reform programs. However, existing programs do not do justice to many of these alternatives. It is becoming clear that INCORA, the Colombian agrarian reform agency, has diverted its attention from politically difficult expropriation, land distribution, and social reform programs that were the major objectives of the agrarian reform law at passage. Instead INCORA has become primarily a technical agency whose main programs are land reclamation and irrigation, supervised credit, and colonization.<sup>4</sup>

In 1967, 44 percent of INCORA's funds went to farm improvement projects, primarily for supervised credit; 40 percent went to land reclamation, irrigation, drainage, and flood control; and 16 percent went to colonization projects. Farm improvement projects include parcelization of large farms into family farms, but only 9 percent of the funds in this category went to land acquisition (4 percent of total funds).<sup>5</sup> From

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<sup>3</sup> See Myrdal, *Op. cit.*, Vol. 2, pp. 1149-1205; Gunnar Myrdal, "The United Nations, Agriculture and the World Economic Revolution," *Journal of Farm Economics* 47 (November 1965), pp. 889-899; William C. Thiesenhusen, "Population Growth and Agricultural Employment in Latin America," Paper Presented at the Conference on Population Problems and Latin American Development, University of Wisconsin, Madison, May 1968, Emil B. Haney, Jr., "The Minifundia Dilemma: A Colombian Case Study," LTC NO. 59, Land Tenure Center, University of Wisconsin, Madison, November 1968.

<sup>4</sup> See Ernest A. Duff, *Agrarian Reform in Colombia* (New York: Frederick A. Praeger, Publishers, 1968), p. 168; Committee on Foreign Relations, *Op. cit.*, p. 121; Robert H. Dix, *Colombia: The Political Dimensions of Change* (New Haven: Yale University Press, 1967), p. 394. For the original intent of the law see Albert O. Hirschman, *Journeys Toward Progress* (Garden City, N.Y.: Doubleday Anchor Books, 1965), pp. 192-205; also Duff, pp. 42-65, Dix, pp. 155-156.

<sup>5</sup> Report of a Mission Sponsored by the International Bank for Reconstruction and Development and the International Development Asso-

1961 to 1967 INCORA had distributed only 66,511 titles for 2,234,751 hectares;<sup>6</sup> this compares with a total of approximately 400,000 to 500,000 landless families whose numbers are increasing by 10 percent a year. Furthermore, 95 percent of the titles given represent public land or land reverted to the public domain; only 5 percent were gained by expropriation or purchase.

This study will thus go beyond current agrarian reform activities and describe and evaluate the overall minifundio structure — including elements affected by existing development efforts — to recommend programs and activities which might better serve the public purpose.

*The Study and Its Methodology.* The study reported here used essentially the same methods employed in the latifundio study mentioned above. The variables measured were also similar. The concept of entrepreneurship — in the Schumpeterian sense — was again used to distinguish successful from unsuccessful farm decision makers. The entrepreneur was defined as a “strategic decision maker”, an individual who skillfully innovates, manages available resources, and adjusts to environmental influences.

The existence of entrepreneurship was determined operationally in terms of five types of decision behavior: problem solving, routine habit, constrained decision, ignorant habit, and fatalism. Problem solving is defined as the only entrepreneurial type of behavior. The others are non-entrepreneurial for reasons which arise out of the situation in which the individual is found.<sup>7</sup>

*Problem solving* consists of the recognition, weighing, and choosing of alternative solutions which appear feasible in a

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ciation, *A Review of INCORA and Its Program in Colombia*, Bogotá, October 1967, pp. 1, 27.

<sup>6</sup> Instituto Colombiano de la Reforma Agraria (INCORA), *Seis Años de Reforma Social Agraria en Colombia, 1962-1967, Síntesis de Actividades hasta 1967* Bogotá, Julio de 1968, p. 18.

<sup>7</sup> For a more detailed description of these typologies see Grunig, *Op. cit.*; Also James E. Grunig, “Information, Entrepreneurship, and Economic Development: A Study of the Decision Making Processes of Colombian Latifundistas,” Unpublished Ph.D. Thesis, University of Wisconsin, Madison, Chapter 2.

given problematic situation. Decision rules or intelligent habits are an important aspect of problem solving; their function is to limit the number of alternatives considered in similar future situations. *Routine habit* is a rigid type of mental process which shuts out all but one habitual alternative. It results when an individual is satisfied with a situation or has lost his aspirations to change it so that he no longer recognizes alternatives other than the single habitual one.

Constrained decision occurs when all but one or a very few similar alternatives are ruled out by physical, social, political, or institutional blocks within the situation. *Ignorant habit* is very similar except that the situational block results from a lack of mental capacity, education, or experience. With *fatalism*, alternatives are not considered because the individual perceives that he cannot control his destiny because it is controlled by supernatural or other outside forces.

The basic methodology of the study was Stephenson's Q-analysis adapted to make use of survey data. In Q-methodology, a limited number of extensive case studies are conducted and the people involved are correlated on the basis of all variables included in the analysis. Typologies of people are then developed through factor analysis. Standardized factor scores are computed for each variable to determine its relative importance in defining and differentiating typologies. Thus, for example, it would be possible for an entrepreneurial and non-entrepreneurial typology of minifundistas to emerge. Comparison of differences in factor scores on all the variables would indicate the important characteristics of the entrepreneurial as opposed to the non-entrepreneurial group.

In this study 76 variables were measured and used as the basis for the correlations and factor analysis of minifundistas. The five decision types were included among these variables. On examining the final typologies of minifundistas we looked for the relative importance of each of these decision types in determining the typology. Thus, for example, if problem solving was the most important of the five decision patterns in determining a type of minifundista, we called that type of minifundista entrepreneurial. If one of the other decision patterns was most important we called the typology non-entrepreneurial.

We then looked at two other types of variables in order to better understand the minifundista typologies and their significance for development policy. We looked first for the relative importance of various individual and structural *antecedents of entrepreneurship*. Individual antecedents included personality traits, resource levels, educational background, etc. Structural antecedents included markets, transportation, credit institutions, technical assistance programs, etc. This analysis gives some indication of the reasons why entrepreneurship exists or cannot exist and how it could be promoted. Finally, we looked for the importance of several consequences of entrepreneurship — such as income, productivity, and adoption of new practices — in order to evaluate the private and societal effects of both entrepreneurship and the lack of entrepreneurship.

Q-analysis makes use of a purposive sample of persons, which was here structured to represent the various types of minifundistas believed *a priori* to exist in Colombia.<sup>8</sup> Interviews were conducted in four departments: Valle del Cauca (an area of both dependent and commercial minifundios), Boyaca (an area of subsistence-level minifundios), Caldas (an important coffee region of commercial minifundios), Meta (an area of colonization and frontier settlement).

Case studies represented both innovative and traditional minifundistas, some medium-sized farms in order to control for farm size, and participants in various agrarian reform and development projects. The latter included a parcelization and irrigation project, supervised credit, contracted marketing, coffee diversification, technical assistance from the Cotton Federation, and frontier settlement. A total of 105 interviews were conducted jointly by the author and a Colombian assistant. The questionnaire contained sections on general information about the farm and owner, production and marketing, transportation, credit, communications and sources of tech-

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<sup>8</sup> Adams and Schulman have listed three types of Colombian minifundios — dependent, independent, and commercial. Dale W. Adams and Sam Schulman, "Minifundia in Agrarian Reform: A Colombian Example," *Land Economics* 43 (August 1967), pp. 274-283. However, the dependent minifundios were rarely encountered in this study. Land use as payment for work on a large farm is now rare in Colombia. Other "dependent" units are no more than residential garden plots for off-farm workers and were not considered important for this study.

nical information, labor, use and cost of modern inputs and practices, and decisions and attitudes.

*The Resulting Typologies.* Correlation and factor analysis of the 105 case studies resulted in six typologies of minifundistas. The typologies were given the following names (the number included in each type is indicated in parentheses): 1) Subsistence Level Campesinos (19), 2) Apathetic Campesinos (15), 3) Non-Innovative Coffee Growers (13), 4) Frustrated Entrepreneurs (10), 5) Frontier Settlers (21), and 6) Entrepreneurs (27). In this section, we will describe and contrast these typologies and in the final section interpret the policy implications of these results.

The descriptions of the typologies are based on a complete ordering of all variables (in standard Z-scores) for each typology. Because of the extensive number of variables, the Z-score values for each variable on each type will not be shown here. However, Table 2 shows the most important differences between two of the types; this table will thus illustrate the statistical output upon which the interpretations of types are based. Table 1 shows the actual percentage and dollar averages on six income measures for each type and also the average farm size in hectares.

*The Subsistence-Level Campesinos.* We will begin our discussion with the most disadvantaged of the six typologies in order to provide a basis of comparison for the other more successful types. The Subsistence-Level Campesinos were found in all four of the departments studied and produced a wide variety of crops. The majority, however, were of Indian or Negro extraction, and the largest number were from the Department of Boyacá.

The Subsistence-Level Campesino is probably the most common type of minifundista in Colombia. He is shut out from any chance of advancing within the society in which he lives because he has very few if any opportunities available. Within his situation entrepreneurship is impossible, a fact shown by the very high score of constrained decision behavior in the Q-analysis which determined the type.

Q-analysis also shows the members of this typology to be old, uneducated, and very poor. Age is the most important

variable in describing the type, followed closely by constrained decision behavior and fatalism decision behavior. Ignorant habit and routine habit are also well above average in importance while problem solving is one of the lowest variables. Risk and uncertainty reduction is the most important decision criterion; economic rationality is not invoked as a criterion.<sup>9</sup> Level of education and literacy are the lowest of all types.

TABLE 1: Average <sup>1</sup> Income Measures and Farm Size, Six Types of Colombian Minifundistas

	Percent Income of variable costs	Income minus variable costs per hectare	Total income minus variable costs	Percent income of total costs	Income minus total costs per hectare	Total income minus total costs	Number of hectares
<b>Non-Innovative</b>							
Coffee Growers ..	1,048	US.\$291	US.\$1,927	240	US.\$186	US.\$943	10.4
Frontier Settlers ....	291	44	1,485	66	23	833	37.5
<b>Subsistence-Level</b>							
Camsinos .....	2,189	243	455	168	165	213	10.3 (2.8) <sup>2</sup>
<b>Frustrated</b>							
Entrepreneurs ..	548	270	528	68	112	199	2.3
<b>Apathetic</b>							
Campeños .....	2,558	381	530	150	70	-573 <sup>3</sup>	2.8
Entrepreneurs .....	138	527	1,799	48	327	699	4.2

<sup>1</sup> Weighted according to factor loading.

<sup>2</sup> Excluding three case loading on the type from Meta who skewed the average.

<sup>3</sup> This figure is discrepant from the other two total cost figures but can be explained in that a few cases had high total losses but also high total costs and a large number of hectares. Thus the percentage and perhectare figures were much lower in relation to other cases and not sufficient to make these averages negative.

<sup>9</sup> As defined here, a criterion is an ideal or measuring stick against which an individual evaluates alternatives. It is not a fixed end or goal but a guide for decision behavior within which an alternative must fall if it is to be considered. The criteria measured included economic rationality, productivity, risk and uncertainty reduction, management ease, social or psychological values, miscellaneous criteria, or no criterion.

Total income over variable costs is the lowest of all types and total income over total costs is only slightly above the lowest.<sup>16</sup> Table 1 clearly shows the extreme poverty of these campesinos. In terms of dollars, total income over variable and total costs are \$455 and \$165 respectively per family per year. Both percent return to variable costs and to fixed costs are very high, and return over variable and fixed costs per hectare are both well above average. This means that both capital and land are in short supply and thus both are used intensively. Hours of family labor used per hectare, however, is very high. Likewise, family size is large and larger than for most other groups.

There are several reasons why income levels are low and entrepreneurship impossible for this type. The Subsistence-Level Campesino has one of the smallest land holdings (an average of 2.8 hectares) and for him the variable "subjectivity of land to productive limitations" scores high in distinguishing the type. Ownership is high among this group, although it is possible that in other similar regions of Colombia sharecropping and rental may be more frequent for minifundistas like these. The type has few market alternatives and those available are below average in stability — i.e., these campesinos generally sell to middlemen and local village buyers who extract large funds of rent from them. Accordingly, the Subsistence Level Campesino is high on the perceived need for better markets.

Likewise this poverty-level typology has few transportation alternatives and a high perceived need for better transportation. He has few alternative credit sources, borrows more frequently from private lenders than do most other types, uses small amounts of credit per hectare, and has a great deal of difficulty in obtaining credit. His perceived need for changes in the credit system is accordingly high. However, he indicates that he needs only an average amount of additional credit per hectare — undoubtedly because of high interest rates and difficulties in obtaining credit as well as the high risk of credit

<sup>16</sup> Variable costs included inputs, hired labor, selling costs, transportation costs, and interest on loans. Fixed costs included land rent or a 12 percent opportunity cost on owned land; a 12 percent opportunity cost of fixed capital such as machinery, livestock, and buildings; taxes; and depreciation of machinery (10 percent per year).

in his highly precarious situation. Finally, he receives little outside information or technical assistance — he is very low on exposure to authoritative information sources (extension and research agencies), technical assistance received with credit, market information, and the overall situational relevance of the information received.

As could be expected, attitudinal and personality variables show him to be high on anomie, high on perceived relative deprivation, and low on level of aspirations, achievement motivation, and adoption of new practices.

This highly restrictive situation is perhaps dominant in Colombia but other campesinos do have more success. Thus, comparison with more favorable situations should suggest ways of alleviating this restrictive one. Thus we turn next to the most entrepreneurial of the six types — the Entrepreneurs.

*The Entrepreneurs.* If we look first at some general observations of the case studies grouped on this typology, we can make three generalizations: 1) They have fertile soil on flat land (they came from all departments, but the majority were from Valle which is perhaps the most fertile agricultural region in Colombia). 2) They produce an intensive crop which brings high returns per unit of land (see also Table 1) — examples are grapes, tomatoes, vegetables, coffee, and laying hens. 3) Nearly all of the beneficiaries of agrarian reform programs are found on the type — INCORA supervised credit borrowers, members of the INCORA parcelization projects, those with a market contract, and recipients of credit from the coffee diversification fund. We will return to this last feature later but a preliminary observation seems to be that the agrarian reform efforts have not led to the success of this type, but rather that the success of the type has made it eligible for agrarian reform benefits.

Table 1 shows that the Entrepreneurs have a high total income over both variable and total costs, although not as high as that of the Non-Innovative Coffee Growers. They do not have a great deal of land (4.2 hectares), although they do have more than the subsistence typologies (Subsistence Level Campesinos, Apathetic Campesinos, and Frustrated Entrepreneurs). But as the quality of their land and intensiveness of their crop would indicate, their returns per land unit

are by far the highest of all types. Percentage returns to variable and total costs, however, are lowest of all types — partly because they invest more than all other types.

They are also entrepreneurial as the name given the typology indicates; they are the highest type on problem solving and lowest on all of the other four decision types. Productivity and economic rationality are their most important decision criteria, and they are the highest type on the adoption of new practices.

In contrast to most campesinos, they are also young, fairly well educated, and literate. They are also favored with a stable market, modern transportation facilities, ample credit, technical assistance with credit, information from authoritative sources, high situational relevance of information content, and access to roads, schools, and medical facilities. In short, for them the situation was favorable to begin with and thus they have been frequently chosen as participants in the limited type of agrarian reform carried out in Colombia. An exception to this cause-effect relationship is provided by beneficiaries of the parcelization-irrigation project studied who were included in the type. They seem to be successful not because of their own efforts but because INCORA has taken over nearly all planning and management functions, leaving the minifundista mainly as a laborer.

Comparison of the characteristics of these first two types does, however, allow us to establish in general terms the criteria for minifundista success in Colombia. From Table 2 we can generally conclude that these requirements are: 1) an average amount of good quality land, 2) an intensive crop, 3) a stable market, 4) situationally relevant technical information, 5) modern transportation, and 6) adequate credit. In addition, education and literacy are clearly important stimulants. These requirements are global in nature, but in describing and contrasting the remaining types we should be able to determine the order of their importance.

*The Frustrated Entrepreneurs.* The cases loading on this type came from Valle and Boyacá, where they generally had some good flat land. However, they had the least amount of land of all types (an average of 2.3 hectares). They are, how-

ever, the most literate of all types and second only to the Entrepreneurs in level of education. They are also the highest type on level of aspirations and achievement motivation. The characteristics of the Frustrated Entrepreneurs thus allow us to isolate the effects of education and literacy when the other six situational factors are limiting.

The most important type of decision making is constrained decision, an indication that few opportunities are available. They also have few of the other five characteristics described as necessary for minifundista success. Their only advantage is that the land they hold is only moderate in its subjectivity to productive limitations and that they have modern transportation available. They do, however, score high on perceived need for better transportation.

At the same time, they have few alternative credit sources, use little credit, tend to use private credit, and have difficulty in obtaining credit. They are also low on market stability and high on perceived need for better markets. Finally, they are very low on exposure to authoritative information and on technical assistance received with credit, even though they perceive information to be of greater potential use than does any other group. They tend to adopt new practices — scoring second only to the Entrepreneurs on this variable. Productivity is also average.

The end result of literacy, education, and innovativeness in a situation offering few opportunities is an income level at the same level of the Subsistence Level Campesinos and well below the Entrepreneurs and other higher income groups. This low income is offset, however, by off-farm employment, a variable on which this type scores highest of all types.

In short, the characteristics of this type allow us to conclude that situational opportunities must be present before investment in the individual himself can have much effect. This type in essence is only a slightly better educated and younger version of the Subsistence-Level Campesinos. With the next typologies, the Non-Innovative Coffee Growers, we will be able to isolate the effect of some of the situational factors already shown to be important.

*Non-Innovative Coffee Growers.* This typology has the high-

TABLE 2: Most Important Variables in Differentiating the Subsistence-Level Campesinos and the Entrepreneurs

VARIABLES	Z-Scores <sup>1</sup>		
	Subsistence Level Campesinos	Entrepreneurs	Difference
Constrained decision behavior .....	1.94	-1.80	3.74
No decision criterion .....	1.71	-1.66	3.37
Age .....	2.12	-1.21	3.33
Ignorant habit decision behavior .....	1.20	-1.91	3.11
Tenure and title .....	1.48	-1.60	3.08
Perceived need for better transportation .....	1.30	-1.75	3.05
Percent income of variable costs .....	1.73	-1.21	2.94
Subjectivity of land to productive limitations .....	1.31	-1.58	2.89
Fatalism decision behavior .....	1.77	-0.99	2.76
Relative deprivation .....	1.20	-1.42	2.62
Land taxes .....	1.70	-0.79	2.49
Routine habit decision behavior .....	1.21	-1.24	2.45
Risk and uncertainty decision criterion .....	1.43	-0.88	2.31
Miscellaneous decision criteria .....	0.87	-1.25	2.12
Family size .....	1.05	-1.25	2.30
Family labor per hectare .....	1.36	-0.85	2.21
Difficulty in obtaining credit .....	1.29	-0.86	2.15
Anomie .....	0.87	-1.25	2.12
Percent income of total costs .....	0.91	-0.99	1.90
Perceived need for better markets .....	0.97	-0.92	1.89
Work days lost for sickness .....	1.36	-0.46	1.82
Social and psychological values decision criterion .....	0.68	-1.03	1.71
Perceived need for changes in credit system .....	0.43	-1.13	1.56
Amount credit per hectare .....	-0.24	1.17	-1.41
Input scarcity .....	-0.62	0.81	-1.43
Market used (stability) .....	-0.42	1.12	-1.54
Transportation used (modernity) .....	-0.74	0.82	-1.56
Land value .....	-0.55	1.03	-1.58
Market information .....	-1.48	0.33	-1.81
Number of transportation alternatives .....	-0.88	0.99	-1.87
Economic rationality decision criterion .....	-1.02	1.10	-2.12
Information seeking .....	-1.03	1.25	-2.28
Adoption of new practices .....	-0.97	1.33	-2.30
Literacy .....	-1.76	0.61	-2.37
Market orientation .....	-1.10	1.29	-2.39
Technical assistance with credit .....	-0.94	1.45	-2.39
Education level .....	-1.39	1.17	-2.57
Hired labor per hectare .....	-0.63	1.99	-2.62
Productivity decision criterion .....	-1.14	1.61	-2.75
Authoritative information sources .....	-1.40	1.93	-3.33
Situational relevance of information .....	-2.24	1.33	-3.57
Problem solving decision behavior .....	-1.89	1.76	-3.65

<sup>1</sup> In Q-analysis, the end product is a standardized Z-score for each of the variables on each of the factors. The Z-score indicates the relative importance of each variable in determining the type and also makes it possible to compare variables across types. In a standard normal distribution, about 68 percent of the Z-scores fall between -1 and +1, 95 percent between -2 and +2, and 99 percent between -3 and +3. The mean is zero, standard deviation one.

est total income over variable costs of all types and also the highest total income over total costs than the Entrepreneurs. Yet they are only average on level of education, are well below average on literacy, are the highest of all types on ignorant habit decision behavior, are well below average on adoption, and are only average on productivity. They also score highest of all types on the subjectivity of land to productive limitations — meaning that their farms are normally extremely sloping. All but one were from the coffee region of Caldas; one coffee grower from frontier Meta loaded on the factor.

It is evident that these minifundistas succeed in spite of their individual limitations because their situation is favorable. First they have more land than any other type but the Frontier Settlers. (10.4 hectares). Second, although the land is extremely sloping, it is ideal for coffee — an intensive crop. Third, the market for coffee is stable and offers several alternative outlets (the Coffee Federation and private buyers).

Yet the Non-Innovative Coffee Growers do not have modern transportation; the three lowest variables in distinguishing the type are access to road, number of transportation alternatives, and modernity of transportation used. The amount of credit used and the additional amount of credit needed per hectare are also well below average, even though difficulty in obtaining credit is very low and the number of alternative credit sources and the availability of institutional credit both score highly. Finally, information is not perceived as useful, it is not sought, and exposure to most information sources are low.

We can thus say that this type is successful because it has ample land which is suitable for an intensive crop for which the market is stable and rewarding. In comparison with the Entrepreneurs we can see that this type substitutes land for capital as a primary input. Income is about the same, which means that innovation and high productivity would not pay for this type because investment in land is easier and less risky than capital investment, especially when education and literacy are low." Credit and technical information do not seem

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<sup>11</sup> This was also true for latifundistas, especially livestock producers, for whom land was a cheaper and more profitable investment than capital. It could also explain why most gains in aggregate agricultural production in Colombia have come from putting new land into production rather than from increasing productivity per land unit.

to be necessary at this stage. Modern transportation is also not essential although it would probably raise the income of this type still higher.

Thus far, then, we can conclude that adequate land, an intensive crop, and a stable market are the three most important factors in minifundio success. We now turn to a fifth typology which will allow us to isolate the effect of land from the other two.

*The Frontier Settlers.* Twenty of the 21 case studies grouped in this typology came from the frontier llanos region of Meta, and all but five of the 25 case studies conducted in Meta loaded on this factor. These minifundistas were achievement motivated and high on aspirations — as would be expected of pioneer settlers. All types of decision were common although problem solving and constrained decision were above average in importance and ignorant habit, routine habit and fatalism below average.

The most important variable in describing the Frontier Settlers is the number of hectares held. The average holding for this type is 37.5 hectares, far more than for any other type. Total income is also high, although total income over variable costs is lower than for both the Non-Innovative Coffee Growers and the Entrepreneurs and total income over total costs lower than that of the Non-Innovative Coffee Growers but higher than that of the Entrepreneurs. Both of these groups have much less land. The percentage income figures are both low, however, and income figures based on the land base are extremely low. This illustrates two additional characteristics. First, credit is available and fairly large amounts are used. This is because INCORA provides ample supervised credit in the Department of Meta as part of its colonization activities. Second, although land-holdings are large much of the land is idle or used extensively. Enterprises are generally of an extensive nature; the most frequent examples include rice, corn, cattle, *yuca*, and dry beans. Some exceptions are cotton, sesame, and coffee — although the first two are still not highly intensive and coffee is a marginal crop in the region.

In short as a result of combining land and credit this type

has reached a moderately high level of total income. However, both land and capital are being used inefficiently, and total income could be increased considerably if some additional situational factors were present.

The first of these is a more stable and lucrative market. Stability of the market is well below average and market orientation one of the lowest variables in distinguishing the type. Low market orientation means that much of the product is consumed on the farm which could indicate that available markets are not remunerative. Likewise, three of the most important differences between this type and the Non-Innovative Coffee Growers are the number of alternative markets, market orientation, and stability of the market. Similarly, the Entrepreneurs are also much higher on market orientation and stability of market and much lower on perceived need for better markets.

A second important limitation is lack of relevant technical information. The variable "situational relevance of information" is high in relation to other types but is not especially high in distinguishing the type. This is because few of the available sources provide information relevant to the vastly different conditions of the plains — which include poor soils, limited infrastructure (modernity of transportation, access to roads, availability of schools are low), and scarce supplies of modern inputs (input scarcity is the second most important variable for the type). Thus no particular information source scores high in distinguishing the type. INCORA loan supervision is the primary source although it is not particularly relevant — as a high score on technical assistance but a lower score on situational relevance of content indicate. This scarcity of information means that the Frontier Settlers do not know which crops bring highest returns, what levels and kinds of fertilization are best, nor how to use improved seed, insecticides, etc.

Thus, the description of this type makes it possible to conclude that adequate land is an important stimulus for a mini-fundista. But without an intensive crop, a stable market, and/or knowledge of or technical assistance about how to use the land income levels will be only moderate. Credit is useful, but usually not until one or more of these other factors are

present. And finally, for this type inadequate transportation and input scarcity provide additional restrictions which must be overcome before additional income is possible.

*Apathetic Campesinos.* The characteristics of this final type are principally another variation of the shut-out, poverty level campesino. But they do illustrate an important problem which must be considered in putting a development program into effect, in that they represent a type of campesino who has given up on the possibility of ever making a change in his situation.

The Apathetic Campesinos are those minifundistas who after facing prolonged hardships have lost all aspiration to succeed. They are low on level of aspiration, achievement motivation and problem solving decisions. They are high on both routine habit and fatalism. Because routine habit shuts off consideration of problems, they perceive no need for better markets, transportation, credit, or technical information. They are found in all regions except frontier Meta to which the apathetic would not migrate. They have little land and use few modern practices, but returns to land and capital are above average. Total income is low but no lower than for other types existing at the poverty level who try to modernize.

To change this type would be difficult, although demonstrated success by Subsistence-Level Campesinos, for example, might help to produce a different attitude toward change. However, this would require substantial public interest and investment in the minifundista — recommendations for which we now turn.

*Conclusions and Policy Implications.* In this study, we have developed six typologies of minifundistas, three of which can be said to be fairly successful and three of which have few or no opportunities for success. The important question at this point is the relative number of each of these groups. We cannot give an exact percentage figure for each of the types because the sample used was chosen purposively, not randomly. Nevertheless, the descriptions of campesino types and the conditions they face plus other studies of Colombian peasants allow us to suggest a fairly accurate set of conclusions about changes needed to improve minifundio agriculture and the relative numbers in each group.

It has already been stated that the Subsistence-Level Campesinos are the dominant group in Colombia. With more specificity, however, we can say that the three variants of poverty level campesinos (Subsistence-Level Campesinos, Apathetic Campesinos, and Frustrated Entrepreneurs) make up at least 80 percent of the small farmers in Colombia. In many departments (especially Boyacá, Cundinamarca, and Nariño) this percentage would be close to 95 percent. The more successful minifundistas are found either in the best coffee regions, on good flat valley lands (which are most often in hands of latifundistas), and in a few agrarian reform showcase projects.

Relating these estimates to the previous discussion of the typologies thus shows that at least 80 percent of Colombian minifundistas are cut off from any opportunities to advance and seldom if ever receive any benefits from government programs. In short, Colombian rural conditions and public programs are such that very few campesinos can become entrepreneurs. The large majority are blocked from access to resources, markets, and education necessary to allow entrepreneurial development. Agricultural development thus requires heavy investments and major reorganizations in rural structures in order to bring about general and long-term growth. Existing programs are not creating those necessary conditions.

One discussion of the more advantaged types of minifundistas has shown which factors lead to small-farm success within the Colombian context and thus provide insight into possible public programs which could benefit the excluded majority. We have found the following factors to be important: 1) a minimum amount of 3-4 hectares of good quality land or larger quantities of poorer land, 2) an intensive crop such as coffee, grapes, tomatoes, laying hens, etc., 3) a stable and remunerative market, 4) situationally relevant technical information along with available modern inputs, 5) roads and modern transportation facilities, 6) adequate and flexible credit, 7) schools which will provide education and literacy training for the next generation of campesinos.

All of these factors are extremely important to minifundista success, and an optimum public program would provide all at once. However, resources in Colombia as in most underdeveloped countries are scarce and such massive programs are

generally impossible. Provision of any one of these seven requirements would help to alleviate the campesino's situation. However, each would be most effective if the previous requirement in the order listed had been provided first.

These factors also show that various aspects of each of the three policy alternatives left open in the introduction to this paper should be employed. Assuming first that the participants in a possible public program have the minimum requirement of land, the three most important requirements for improving minifundio conditions are an intensive crop, a stable market, and relevant technical assistance. The easiest of these to attain is an intensive crop. The most difficult is a stable market. In Colombia, incomes are low and poorly distributed and as a result the demand for most of these intensive products is limited. Thus promotion of an intensive crop soon leads to a flooding of the market and subsequent instability and low prices. The successful marketing operations of the coffee and cotton federations indicate, however, that a central organization can manage and stabilize the market. INCORA could carry on many of these planning activities for the small-farm sector. The long-term solution, nevertheless, is higher income in the peasant sector and better income distribution in the economy as a whole.

On the surface, providing technical assistance also seems easy. But the key problem is providing *situationally relevant* technical assistance. Present efforts are clearly unsuccessful and inadequate.<sup>12</sup> An essential in Colombia is to change the concept of technical assistance from that of changing an ignorant campesino (i.e., making his decisions) to that of helping the campesino to perceive and solve problems. Most importantly he needs to be helped in his struggle for land, education and transportation and taught how to keep records and to manage his own capital — i.e. helped to become an economic and political man. At present he is being told to produce a certain crop and to use certain inputs without knowing why or if these decisions are economically optimal (which frequently they are not).

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<sup>12</sup> See Herman Felstehausen, "Colombia Necesita Sus Propios Programas de Extensión Agrícola," *Desarrollo Rural en las Américas 1* (Enero-Abril de 1969), pp. 55-68.

Cost of technical assistance could be reduced if agents were placed at input outlets: they could then visit a sample of farms in the region to learn what problems exist and how they are being solved or might be solved. Farmers could then seek out this information at the input outlets. Technical assistance of this type could do much help even the subsistence type campesinos who possess few other opportunities. Use of proper insecticides and fertilizers, for example, could double output of many of their crops; these inputs are now used, but improperly.

In addition to the three requirements, attention must be given to transportation, as inadequate transportation often contributes to market instability. This is because a small farmer cannot afford to ship small quantities to distant markets even though price differentials are great. However, transportation costs decline rapidly as larger quantities are hauled; thus INCORA could help to improve the situation by providing truck transportation for a group of minifundistas and thus reduce transportation costs and as a result space differences in market prices.

Finally, credit is clearly useful to minifundistas in later stages of entrepreneurial development and could help many poverty level campesinos overcome crop failures and other disasters — if it were available to them. But it also seems that credit programs are overemphasized in present development programs at the expense of more basic reforms and situational changes.

After discussing these important prerequisites for minifundista success, we can now relax the assumption that all minifundistas have adequate land. This clearly is not true as our discussion of the three subsistence types of campesinos has shown. In addition, there are thousands of landless day workers and unemployed peasants throughout Colombia who could be helped greatly if they were provided land.

Additional land could be provided to peasants by either redistributing land in populated areas, by colonization of frontier regions, or both. Expropriation of non-entrepreneurial large farms in populated areas is a frequent and desirable recommendation. However, this has proved difficult within the Co-

Colombian political context. An alternative would be to put a maximum limit on farm size and force sales of all holdings over this maximum.<sup>13</sup> Land sales could then be controlled so that land would be sold only in small and medium-sized lots. INCORA could then enter the land market and buy up a good deal of the available land and sell it to minifundistas and landless campesinos on long-term credit terms. Much of the money now devoted to land reclamation projects and part of that used for supervised credit could instead be used for this purpose.

Such a program would require a more effective system of local government than now exists, for evasion of these land holding and sale provisions would be easy unless the peasant citizenry is organized to prevent such evasion. Improved local government could also improve tax collection, which in turn could result in provision of some of the requirements for minifundista success listed above — namely roads, schools, and other public services.<sup>14</sup>

At the same time land could be provided through a low-cost colonization program. This could be done by building roads and schools in frontier areas, instituting a rapid and simple titling process, and providing outlets for necessary inputs. Technical assistance is also essential and could be provided by stationing an *agronomo* at each of the input outlets. Such a colonization program could be carried out at much less expense and could benefit many more people than present projects.

In conclusion, it seems that the minifundista situation will change little unless substantial public efforts are made to change it. But this will not happen until campesinos are allowed to enter the political system in order to press their needs upon the government. Present government programs are largely token efforts designed to maintain the status quo. The supervised credit program of INCORA, for example, seems

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<sup>13</sup> As pointed out above, this would also provide a complementary stimulus to large-farm entrepreneurship.

<sup>14</sup> For further detail on Colombian local government see Herman Felstehausen, *Servicios Rurales y Gobiernos Locales en el Oriente de Antioquia*, Publicación Especial No. 85, Secretaría de Agricultura de Antioquia, Medellín, Septiembre 1998.

to have allowed INCORA to by-pass difficult reforms and still seem to be carrying out agrarian reform. The same could also be said of INCORA's present land reclamation and colonization programs — both spend a great deal of money on showcase projects but by-pass more important problems and help very few people. This probably could not occur if the campesino masses had an effective voice in government policy.

The Dutch sociologist E. W. Hofstree has said: “. . . what people . . . do not realize, or at least do not realize sufficiently, is that the bad social position in which the peasant lived for ages and ages almost everywhere in the world is of crucial importance for agricultural production. You cannot make an efficient farmer, trying to improve his farm and to enlarge his production, from a peasant who feels that he is the underdog and will be the underdog forever . . . The real background of modernization in agriculture is not a technical and economic one, but it is to be found primarily in the mental and political sphere.”<sup>15</sup>

This seems to be especially true in Colombia.

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<sup>15</sup> E. W. Hofstree, “Development and Rural Social Structure,” *Sociologia Ruralis* 8 (Special issue, 1968), pp. 240-253.