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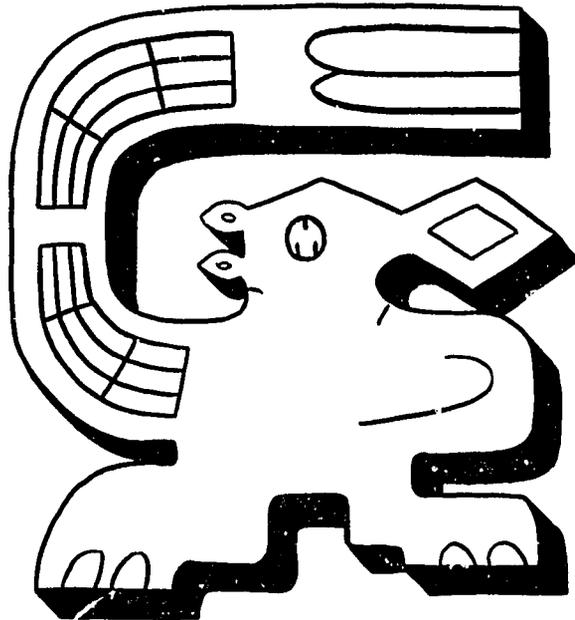
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Economic Decision  
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Among Colombian Latifundistas

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## Economic Decision Making And Entrepreneurship Among Colombian Latifundistas

BY JAMES E. GRUNIG\*

The high proportion of land resources controlled by large farmers in most Latin American countries and the asserted unproductivity of these landholders has been widely discussed, condemned and at times defended. The latifundio<sup>1</sup> issue has appeared in three comments on Schultz's *Transforming Traditional Agriculture* by Beckford, Feder, and Adams with replies by Schultz<sup>2</sup> and in an exchange by Bray and Thiesenhusen.<sup>3</sup>

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\* The author is an assistant professor in the Land Tenure Center, University of Wisconsin. The study on which this article is based was supported in part by the Agency for International Development; and the Midwest Universities Consortium for International Activities. The author acknowledges the advice of Lloyd R. Bostian, his graduate adviser, and the other members of his doctoral committee, Bryant E. Kearl, Marion Brown, Raymond J. Penn, William Hachten, and John McNelly. He is also indebted to Herman Felstehausen, Colombian Country Director of the Land Tenure Center for advice on the project and comments on an early draft of this paper and to Jaime Mira for assistance in data collection and analysis and for advice throughout the project.

<sup>1</sup> Latifundio is defined here simply as a large farm. It does not necessarily imply a feudalistic type of landholding.

<sup>2</sup> George L. Beckford, "Transforming Traditional Agriculture: Comment," and Theodore W. Schultz, "Transforming Traditional Agriculture: Reply," *Journal of Farm Economics* 48 (November 1966), 1013-1018.

Ernest Feder, "The Latifundia Puzzle of Professor Schultz: Comment," and Theodore W. Schultz, "The Latifundia Puzzle of Professor Schultz: Reply," *Journal of Farm Economics* 49 (May 1967), 507-514.

Dale W. Adams, "Resource Allocation in Traditional Agriculture: Comment," and Theodore W. Schultz, "Resource Allocation in Traditional Agriculture: Reply," *Journal of Farm Economics* 49 (November 1967), 930-935.

<sup>3</sup> James O. Bray, "Mechanization and the Chilean Inquilino System: The Case of Fundo B," *Land Economics* 42 (February 1966), 125-129;

In his book Schultz states that he cannot explain why large landowners in South America do not seek out improved practices and factors of production.<sup>4</sup> However, in his reply to Feder, Schultz adds that analyses of costs and returns might provide the answer to the latifundio dilemma. He also suggests that a shortage of management talent is the primary reason for the backwardness of this large-farm group. Bray suggests that high costs (primarily for labor) and low profits are the basic causes of latifundista unproductivity. The dissentions from these views hold that latifundistas are not economically responsive because of anachronistic socio-economic institutions which the latifundista has little need nor desire to change. This view then holds that economic development of agriculture is impossible without basic land and other institutional reforms.

In Colombia, the latifundio problem and issues are similar to those in other Latin American countries. Five and one-half percent of the landholders control 71.4 percent of the land. Fifty-two percent of the total credit goes to 10 percent of the users. And 50 percent of the land in irrigation is concentrated in holdings of greater than 200 hectares.<sup>5</sup> There is evidence, however, that the concentration problem is not as severe as that in some other Latin American countries, most notably Chile and Peru.<sup>6</sup>

Many writers have condemned the Colombian latifundio sector as unproductive. The 1956 World Bank Mission for example, reported that although this sector controlled most of the productive valley lands, it used the land mainly for extensive livestock production.<sup>7</sup> According to the report, most

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William C. Thiesenhusen, "Profit Margins in Chilean Agriculture: A Reply," and James O. Bray, "Profit Margins in Chilean Agriculture: A Rejoinder," *Land Economics* 43 (May 1967), 243-252.

<sup>4</sup> Theodore W. Schultz, *Transforming Traditional Agriculture* (New Haven: Yale University Press, 1964), p. 174.

<sup>5</sup> Ministerio de Agricultura, *Plan Cuatrienal Agropecuario 1967-1970 Para Ocho Productos de Consumo Popular*, Serie de Planeamiento No. 1, Bogotá, Colombia, February 1967, p. 2.

<sup>6</sup> Solon Barraclough and Arthur Domike, "Agrarian Structure in Seven Latin American Countries," *Land Economics* 42 (November 1966), 391-424.

<sup>7</sup> International Bank for Reconstruction and Development, "Trends

changes in land use, technology, and marketing had largely bypassed the large landowner. Ten years later, however, Currie asserted that the latifundio sector was changing rapidly, that crops were spreading rapidly to large farms in the valleys, and that this sector's principal limitation was a lack of effective demand for its products.<sup>8</sup>

*Purpose of the Study.* This study was designed to examine decision making situations of Colombian latifundistas to learn whether genuine entrepreneurs, in the Schumpeterian sense, exist or could exist. The results would also indicate in what direction the "private purpose" of latifundistas is being directed and whether this purpose is consistent with or could be made consistent with the "public purpose" of all of Colombian society.<sup>9</sup>

The study attempted to answer the following specific questions, questions which subsume most of the issues referred to in the discussion about latifundios previously cited:

- 1) Are output prices in relation to input prices (including labor) high enough to make large-scale agriculture a productive investment? Does high productivity pay? Or are latifundistas unable to get the necessary inputs — machinery and replacement parts, fertilizer, seeds, irrigation equipment, etc. — needed for high productivity, or are these inputs available only at a price which does not allow profitable use.
- 2) Does absenteeism inhibit the quality of management and warp decisions toward easily managed but less productive and less socially desirable enterprises? Do resident farm managers have enough management ability to substitute for the absentee owner? Do outside professions and/or business interests limit the de-

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in Agricultural Development in Colombia," in Gerald M. Meier (ed.), *Leading Issues in Development Economics* (New York: Oxford University Press, 1964, report originally published in 1956).

<sup>8</sup> Lauchlin Currie, *Accelerating Development: The Necessity and the Means* (New York: McGraw-Hill, 1966).

<sup>9</sup> The concept of public purpose is that of John R. Commons; for a complete explication of the concept see John R. Commons, *Legal Foundations of Capitalism* (Madison: University of Wisconsin Press, 1959, first published 1924), pp. 313-388.

choices available to latifundistas? Are these outside interests more lucrative than agriculture so that farming is only a peripheral occupation?

- 3) Do latifundistas hold land for productive purposes or for prestige, as an inflation hedge, or because of inheritance and tradition?
- 4) Is the latifundista limited by a lack of capital or because he cannot get enough credit of the amount and terms needed?
- 5) Are markets and transportation inadequate, or does the latifundista lack knowledge of alternative markets and price relationships?
- 6) Does the large landholder lack information and/or technical assistance in the use of improved methods and inputs.
- 7) Is the non-entrepreneurial latifundista dependent on low-cost docile labor so that he avoids innovation because it may change this relationship? Does he "exploit" his workers to guarantee this cheap labor?
- 8) Are Colombian latifundios so large that decreasing returns to scale have occurred? Does the quality of the land found in large farms limit the intensity of its use? Is it possible to be entrepreneurial in livestock production, or do all entrepreneurial latifundistas produce crops?
- 9) Do latifundistas renting land have more incentive to become entrepreneurial because of less automatic gain from holding land — such as price inflation — and the need to cover the cost of expensive rental contracts?
- 10) Does the latifundista simply lack a motivation for change or a "need to achieve," and do societal values stress conformity to tradition rather than innovativeness? Is the latifundista a "political" rather than "economic man"? Does he use politics rather than economics to gain his social and economic standing?

*Entrepreneurship and the Rationality Argument.* Behind many of the issues concerning latifundios lies the question of

structural, social or political. Constrained decision is not entrepreneurial, but when constraints are judiciously used by persons exercising control over others, it can be used to force new combinations — the same consequence as entrepreneurship. If the block were removed by public policy, however, the normal economic incentives could bring change.

The final type of decision behavior, *ignorant habit*, is similar to constrained decision in that a situational block exists. The difference is that the block results from a lack of mental capacity, education, or experience. To achieve change in a person exercising this behavior the block must be removed through educational activities or through introducing the person to new experiences.

*Methodology.* The basic methodology used in the study was Stephenson's Q-analysis<sup>17</sup> adapted to make use of survey data. This methodology is similar to that of case groupings (as opposed to cross-sectional analysis) described by Salter.<sup>18</sup> In essence, individual cases are combined on the basis of common scores on variables and then these variables are analyzed for their effect on each group and for difference among groups. The end result in this study was a number of typologies of decision makers, typologies which include both personal and situational characteristics.

The major steps in Q-analysis are the following:

- 1) A number of attributes are measured for each person in the sample and converted to standardized Z-scores.
- 2) Using the standardized scores for all variables, a matrix is developed in which each person is correlated with every other person in the sample.
- 3) This matrix of intercorrelations is submitted to factor analysis in order to abstract underlying factors — i.e., factor analysis places each person into one or more groups on the basis of his intercorrelation with other people. The factor

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<sup>17</sup> William Stephenson, *The Study of Behavior: Q-Technique and Its Methodology* (Chicago: The University of Chicago Press, 1953).

<sup>18</sup> Leonard A. Salter, Jr., "Cross-sectional and Case-grouping Procedures in Research Analysis," *Journal of Farm Economics* 24 (1942), 792-805.

represents a grouping of people around a common set of attributes — a type of person or, in this case, a type of decision maker. The loading (between 0 and 1.0) of each person on the factor indicates how strongly he represents or is typical of the group.

4) The importance of each of the attributes in describing the factor is determined by computing factor scores for each variable on each factor. This is done for each attribute by weighting the attribute score of each individual in a factor by his loading on the factor and summing the result for all individuals in the factor. The factor scores are then standardized into Z-scores to allow comparison across factors.

5) Comparison of the Z-scores for all attributes on one factor indicates which variables are most important for each factor or group of people. Comparison of the Z-scores for each attribute across factors indicates their relative importance in distinguishing one factor from another.

The variables were measured through use of a questionnaire administered jointly by the author and a Colombian assistant to 88 case studies in two regions of Colombia. The questionnaire consisted of 10 sections covering general information about the farm and owner, marketing, productivity, transportation, capital and credit, communications and sources of technical information, labor, use of inputs and techniques, taxes and other expenses, and attitudes and decisions. An extensive review of the literature was also completed in order to consider macro-economic and structural aspects of the Colombian economy in the analysis. In this article this material is largely used in interpretation of the survey data.

These questions were coded into 96 variables on the basis of three temporal classes of variables — antecedents of decisions, the cognitive decision process, and the consequences of decisions. For each typology of a decision maker derived from Q-factor analysis, the model tells us first whether the situation is entrepreneurial (cognitive decision process), then how entrepreneurship can be encouraged (antecedents), and finally whether the consequences of entrepreneurship are socially desirable in promoting the Colombian public purpose.

A complete description of these variables is omitted here

because of their extensive number. Those that were important in distinguishing types will be discussed in detail below. Two explanations, however, are useful. First the cognitive decision variables were measured by asking the respondent why he used or did not use various alternative markets, means of transportation, credit sources, and agricultural practices. He was also asked questions about what he would do in hypothetical situations where entrepreneurial behavior might be possible. All of these questions were coded, and an average score computed for each of the decision types described above and for each of eight decision criteria—economic rationality (costs and returns), productivity, uncertainty reduction, management ease, social values, psychological values, miscellaneous criteria, or no criterion. Secondly, six income measures were used — percent income of variable costs and of total costs, income over variable costs and income over total costs per hectare, and total income over variable costs and over total costs.<sup>19</sup>

In a first factor analysis of variables, 34 of the 96 variables were eliminated for either lack of variance or because of random distribution. In other words these variables did not function in distinguishing among latifundista types and diluted the correlations in the factor matrix of people. During the elimination process, all but two of the eight decision criteria listed above were eliminated for randomness. The two exceptions were economic rationality and management ease.

Q-methodology makes use of a structured or purposive sample of persons. The sample is chosen theoretically to represent the important types of people believed, *a priori*, to be different with respect to the problem at hand. It should be made clear, however, that these *a priori* classifications are merely a theoretical "guess" about the final typologies. The final typologies are chosen statistically on the basis of scores on variables measured in the actual case studies.

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<sup>19</sup> Variable costs included inputs, hired labor, selling costs, transportation costs, interest on loans, and miscellaneous costs. Fixed costs included rent or a 12 percent opportunity cost for land; the same opportunity costs for investment in livestock, machinery and buildings; taxes; and depreciation of machinery.

In this study, the sample of persons for the cases studied was chosen using two general criteria — the nature of the geographical area and the degree of apparent entrepreneurship. The two geographical areas were: 1) the Cauca Valley (Department of Valle del Cauca) to represent a predominantly crop producing region where some livestock are still produced and 2) the Eastern Plains (Department of Meta) to represent a livestock area where commercial crops are beginning to be produced.

The Cauca Valley is the best agricultural region in Colombia, and its climate and soil are well suited to agriculture. Its agriculture is highly commercialized although some areas of traditional extensive livestock production remain. By Colombian standards, Valle also has a well-developed system of credit, markets, transportation, and communications. The Cauca Valley Corporation (CVC) — the “Colombian TVA” — and the agricultural experiment station at Palmira are both well-known for their agricultural development activities.

Meta, on the other hand, is a frontier region of Colombia which is only beginning to be cultivated. The soils of the plains, although not well understood, are generally poor, and the climate ranges between too much and too little rain. Transportation, markets, and public services are rudimentary, and little research and technical knowledge is available.

Within each of these two regions three groups of latifundistas were chosen for interviewing. These three *a priori* categories were intended to represent increasing levels of apparent entrepreneurship. They were “traditional” livestock producers, “modern” livestock producers, and producers of the major crops in the regions. Names of latifundistas were obtained through agricultural agencies working with large farmers in the regions<sup>20</sup> and by asking other farmers interviewed for names.

*The result.* After elimination of 34 of the 96 variables, correlation and factor analysis of the 88 people on the basis of the remaining variables yielded six typologies of lati-

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<sup>20</sup> The average size of farm in this study was 573 hectares (1,521 acres) in the Cauca Valley and 2,742 hectares (7,239 acres) in the Eastern Plains. The smallest farm had 50 hectares, the largest 60,000.

TABLE 1:  
AVERAGE INCOME MEASURES, SIX TYPES OF COLOMBIAN LATIFUNDISTAS

	<i>Percent income over variable costs</i>	<i>Income minus variable costs per hectare</i>	<i>Total income minus variable costs</i>	<i>Percent income over total costs</i>	<i>Income minus total costs per hectare</i>	<i>Total income minus total costs</i>	<i>Percent return to commercial land value <sup>b</sup></i>
<i>Averages a</i>							
<b>Part-Time Livestock</b>							
Producers — Meta .....	-25 c	U.S.\$-16	U.S.\$-3,956	-70	U.S.\$-43	U.S.\$-34,718	-19.3
<b>Traditional Resident</b>							
Farmers — Meta .....	130	43	60,274	20	16	5,149	43.2
<b>New Entrepreneurs</b>							
— Meta .....	65	69	41,751	7	37	10,487	36.6
<b>Successful Entrepreneurs</b>							
— Valle .....	185	319	123,463	58	166	61,572	35.0
<b>Unsuccessful Entrepreneurs</b>							
— Valle .....	18	-64 d	671	-64	-244	-44,269	-13.5
<b>Traditionals</b>							
— Valle .....	126	56	55,882	-41	- 84	-63,123	- 0.9

a—Weighted average; weight=factor loading

b—Costs include depreciation, taxes and interest on fixed capital other than land.

c—A negative figure indicates, in this case, that the type does not cover variable costs and that the loss is this percentage of the total variable costs.

d—This figure is discrepant from those of the two adjacent columns but can be explained in that all three figures are near the break-even point but that a few cases had a larger loss in relation to the land base than in the other figures and thus these discrepant averages resulted.

fundista decision makers. The six typologies divided almost perfectly by regions — three types were from Valle, three from Meta.<sup>21</sup>

The six typologies were given the following names: 1) the Traditional Resident Farmers—Meta, 2) the Part-Time Livestock Producers—Meta, 3) the New Entrepreneurs—Meta, 4) the Traditionals—Valle, 5) the Successful Entrepreneurs—Valle, and 6) the Unsuccessful Entrepreneurs—Valle. Table 1 compares relative income figures for these six types. Of the 88 cases, the above categories contained 17, 12, 11, 18, 17 and 13 cases respectively.

*Valle Types.* We begin with the least entrepreneurial type in the Cauca Valley and the least entrepreneurial of all types, the Traditionals—Valle. Nearly all latifundistas loading most highly on this factor had been classified *a priori* as traditional livestock producers. Two were classified as sugar cane producers, and nearly all were producing cane as a supplementary enterprise (cane closely follows livestock in being an extensive enterprise in Colombia).

Table 2 shows the variables which positively and negatively most distinguish the type. This table is included for this typology in order to illustrate the results derived from Q-analysis. This table, however, contains only the highest and lowest scoring variables for the type. Scores for all 64 variables for the six typologies can be found elsewhere.<sup>22</sup> Because of space limitations similar tables will not be presented for other typologies. Descriptions of the six types, however,

<sup>21</sup> It could be argued that the split between regions was pre-set in spite of the statistical analysis if a majority of the variables were physically or structurally related to the regions and the regions quite different, as are Valle and Meta. However, a check of the variables shows the following distribution. Before the 34 variables were eliminated 8 percent were physical factors dependent on the region, 28 percent were structural factors (markets, credit, transportation, etc.) somewhat dependent on the region, 21 percent were individual economic variables only slightly related to the region, and 43 percent were variables completely determined individually. After the elimination of variables the percentages, in the same order were 10 percent, 16 percent, 29 percent, and 46 percent. Therefore, it does not seem that the nature of the variables predetermined the regional breakdown.

<sup>22</sup> Grunig, "Information Entrepreneurship and Economic Development" *op cit*

TABLE 2:  
MOST IMPORTANT VARIABLES IN DEFINING THE  
"TRADITIONALS — VALLE"

<i>Variable</i>	<i>Z-Score a</i>
Routine habit decision behavior .....	2.48
Land Taxes .....	2.13
Time land in possession .....	2.03
Ignorant habit decision behavior .....	1.58
Age .....	1.54
Productivity .....	1.41
Newspaper exposure .....	1.30
Fixed costs per hectare .....	1.14
Land value .....	1.05
Management ease decision criterion .....	1.03
* * * *	
Percent credit of total costs .....	-1.10
Economic rationality decision criterion .....	-1.26
Information seeking .....	-1.26
Input scarcity .....	-1.29
Reason for holding land .....	-1.32
Modern social values .....	-1.42
Perceived need for better markets .....	-1.43
Perceived usefulness of information .....	-1.80
Total income over total costs .....	-1.85
Problem solving decisions .....	-2.19

a/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. In the table only the highest and lowest scores are included — those greater than +1 or less than -1.

are based on Z-scores for all of the 64 remaining variables.

The highest score for the Traditional—Valle is routine habit decision behavior. Ignorant habit is also a strong characteristic, while problem solving is the lowest scoring variable. Management ease is frequently the decision criterion; economic rationality is seldom used. The Traditional is also old, has little schooling, expresses few modern social values but many traditional values, and adopts few modern practices.<sup>23</sup>

<sup>23</sup> The high productivity score of this type is largely an artifact of the coding process. The type consists mainly of livestock producers who were necessarily compared with other livestock producers in computing productivity. Most of the other livestock producers were from Meta where soils are poorer and the possible productivity of the land much lower than in Valle. The result, then, is a high productivity score for most livestock producers in Valle.

The Traditional, however, is not highly absentee. He normally lives in Cali (third largest city of Colombia and capital of Valle) but possesses a farm close by.<sup>24</sup> He also scores fairly high on percentage of working time devoted to agriculture — indicating he does not have many other business or professional interests. But he is low on percentage of capital invested in agriculture — he has the majority of his capital invested in real estate and stocks which do not absorb working time.

The three income measures based on total costs are all low (generally he loses money when the calculations are made this way). To the outside observer this would seem to be a problematic situation — but not to the Traditional. The value of his land is high and rises every year, a gain which is more or less equal to the opportunity cost of land which makes up most of the Traditional's fixed costs.

And the Traditional performs relatively well on income figures based on variable costs. Although his income over variable costs per hectare is low, his percent income over variable costs and total income over variable costs are relatively high. He could generally increase his total income over variable costs five times or more by intensive use of land. But it appears that this is not important to him because his income from extensive use of large quantities of land is still large and adequate for his needs.

The second type of Valle latifundista, the Successful Entrepreneur, is an extreme contrast to the Traditional. Crops are the predominant enterprises for this type. Two cases loading on the factor were exceptions; they have intensive dairy operations along with several crop enterprises. This latifundista is characterized primarily by his success in earning profits — five of the six most important variables are income variables. Percent income of variable costs is the lowest income variable, but it is still above mean importance. This variable is lower because this type invests more working capital than extensive livestock producers who get high returns to working capital but not to land.

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<sup>24</sup> Degree of absenteeism was coded as follows: 0=lives on farm, 1=lives in village near farm, 2=lives in medium-sized town near farm or Cali if farm is close by, 3=lives in Bogotá or Cali if farm is distant.

The decision variables show this type to be highly entrepreneurial. Although he is only moderately high on problem solving, he is lowest of all on routine habit and ignorant habit. His problem solving is not higher because he scores right at the mean on constrained decision — showing that he must sell cotton, for example, to the cotton federation, has little choice but to spray for insects, can get credit only from the Agricultural Finance Fund, etc. Finally, he scores highest on economic rationality as a decision criterion and lowest on management ease.

This type is generally a renter. He is also young, has an average education, low traditional values, has high participation in voluntary organizations, but is not cosmopolite nor does he feel politically efficacious.

The Successful Entrepreneur's absenteeism score indicates that he generally lives near the farm — either in Cali or in one of the medium-sized secondary towns in Valle. He is not a full-time farmer, however, and generally has other business interests. His number of management hours, however, is among the highest variables in determining the type. And he pays his farm manager better than any other type and hires a manager of above average quality.

The Successful Entrepreneur also has the most control over his market (in terms of stability) and does not perceive a need for better markets. He generally sells for a stable price or under a contract which also provides technical assistance, credit, and inputs. He has relatively little land but uses it intensively, nearly all in crops. But he is not especially productive in relation to other crop producers and is not a high adopter of innovations. He is profitable precisely because he does not over adopt and is not particularly productive. He pays close attention to costs and returns (as his score on economic rationality shows) and as a result has only moderate variable costs. Because the Successful Entrepreneur has management time and ability he does not have to rely on technical assistance and communicated information. He devotes considerable attention to his problems and creates personal technical knowledge.

Comparing the distinguishing characteristics of these first

two latifundista types presents a paradox; they represent extremes in economic performance operating on equally good land. But comparison of the income measures solves the paradox. The Successful Entrepreneurs score much higher on the income variables based on total costs and on returns to land. But both have high total incomes over variable costs, and the Traditionals obtain a higher percentage return over variable costs. Thus, given his present situation, the Traditional has little incentive to become an entrepreneur.

The third type of Valle latifundista, the Unsuccessful Entrepreneur, consists mainly of crop producers and "modern" livestock producers. Low scores on the six income measures are distinguishing characteristics of this type.<sup>25</sup> His most important decision type is constrained decision, for which he scores higher than all types. He is average in problem solving and low in routine and ignorant habit.

Why is this type unsuccessful? First, he has the highest level of fixed and variable costs. The high fixed costs result from the high value of his land, which he generally owns. The high variable costs are due to two factors — he has the highest adoption rate of all and the highest use of labor. His productivity is high but it does not pay off, as his low income attests. He pays little attention to costs and returns, thus is not characterized by economic rationality.

Importantly, the type scores high on absenteeism and low on the reason for absenteeism (indicating he is absentee for business reasons, not for lack of rural services or for fear of violence). Similarly, he is lowest of all types on the percentage of working time in agriculture, has the fewest management hours, and has a low percent of his capital in agriculture. And for him other interests are more lucrative than agriculture. He is also highly educated and cosmopolite. All

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<sup>25</sup> It should be recognized that five of the 13 loading on this factor have made long-term investments which have not yet begun to pay off — three in African oil palm, two in fruit trees. When these investments reach the maturity stage these five may then pass into the Successful Entrepreneur group, but at present they have low profits and similar other characteristics to those on the factor without long-term investments.

indicate that he is a professional or businessman living in Cali with a farm as a sideline investment.

What are his problems? He is a high seeker of information, probably indicating a lack of personal management capability. But he does not perceive the information as useful — available information is normally of little functional value. Secondly, he has only average market control, much less than that of the Successful Entrepreneur. But he receives much more credit and for longer terms.

Finally, a high use of labor contributes importantly to his costs and losses, because labor, though inexpensive on a unit basis, is inefficient and costly in the aggregate. The Successful Entrepreneur averts labor costs through mechanization.

Comparing this Unsuccessful Entrepreneur with the Traditional supports the “rationality” of the traditional, given his present situation. The Traditional achieves a higher income on all of the measures with the exception of total income over total costs. Thus, discounting the costs of land the Traditional clearly makes more profit than this entrepreneurial type he might become. In the event of change, he probably would be more like the Unsuccessful than the Successful Entrepreneur because of lack of management capability and because most of the livestock producers now using improved practices are Unsuccessful Entrepreneurs.

*The Meta Types.* The least entrepreneurial of the three types from the Eastern Plains, the Traditional Resident Farmers—Meta, is split about evenly between crop and livestock producers. All but two of the 17, however, produce some livestock. This type makes an above average income for latifundistas without investing much capital and without using modern practices. His decision behavior is generally routine habit and secondly ignorant habit. Management ease is an important decision criterion but economic rationality is not.

This Traditional Resident Farmer lives on or near the farm; he has the lowest absenteeism and is seldom absentee without reason. He is not a cosmopolite, he buys his inputs close to home, generally obtains medical services in a village rather than a city, and sends his children to school in a village. Agriculture is more lucrative for him than for the other types,

he has the highest percentage of capital in agriculture, and he devotes the most hours of management and a high percentage of his working time to the farm. His reason for holding land is purely business, not a diversion or an escape from inflation. He has few means of transportation available to him, and he uses antedated means of transportation — generally moving cattle on foot. He does express a moderate need for better markets.

This type also has the lowest rate of adoption and the lowest productivity. He hires a poor farm manager and gives him little responsibility. But in spite of his traditionalism, this latifundista is profitable. All but one of the income measures are of greater than mean importance in determining the type; his is the highest percentage income over variable costs. He makes efficient use of capital, uses only moderate amounts of credit, uses little labor, does not adopt new practices, and owns inexpensive land. The results are low fixed as well as variable costs. Only the measure of income over variable costs per hectare is of less than mean importance, and this illustrates the key to this traditional's profit. He has the most land of all groups and uses cheap abundant land as a substitute for more expensive labor and capital.

The second type of latifundista in the plains, the Part-Time Livestock Producer—Meta, consists entirely of livestock producers; the majority *a priori* were classified as "modern." This is the most absentee of the six types. Most live in Bogotá, the capital of Colombia (a 5-hour drive from most of their ranches), or in Villavicencio, the capital of Meta. The percent of this type's working time in agriculture is low, his other investments and activities are more lucrative than agriculture, and he devotes few management hours to the farm. He does, however, have a fairly large percentage of his capital invested in agriculture. These last four characteristics seem to indicate that he holds a salaried position in Bogotá which takes much of his time but not his capital and forces him to be a distant absentee owner.

The Part-Time Livestock Producer uses his land extensively, his variable costs are low, his adoption rate about average, and his productivity low. He gets more credit in relation to

his costs and the longest term credit of all types. These are indications that he is the main beneficiary of large-scale livestock loan funds available from foreign sources in livestock regions of Colombia.

However, his income is low, especially percent income to total costs and percent income to variable costs. This seems to indicate that he is beginning to make investments — although his variable costs are the lowest of all types — and that the returns have still not begun to come in. Low variable costs but low returns to variable costs can best be explained by the fact that his land has recently been more or less idle, but upon receiving credit he has begun to place livestock on the land but only up to the extensive level common in the plains.

Importantly, this type has the least market control — he generally sells to middlemen. His perceived need for better markets is also greater than for any other type. The market structure seems to limit the production of beef more than the other products included in this study. The system is fragmented and generally under the control of commission agents — working for meat retailers — who have control of placing animals in slaughterhouses. This requires a producer to exercise a good deal of effort and personal influence in order to market his animals. In addition, prices are more or less the same for all qualities of animals. Since investments to improve the productivity of land in pastures (better grasses, fertilizer, irrigation, etc.) and improved breeds (faster gaining animals producing quality meat) are often complementary inputs, the discouragement of better breeds by the market also helps discourage increased land productivity.

A second limitation to the attempted productivity of the Part-Time Livestock Producer is the scarcity of relevant technical assistance and information. This is shown in his differing scores on the two information variables — he regards information as relatively important but does not seek it because he has probably found that relevant information often does not exist.

In making decisions, the Part-Time Livestock Producer generally engages in problem solving. This type does, neverthe-

less, engage in a relatively high level of routine habit. This shows the conflict when modern practices are placed within the context of a traditional situation.

Comparing these first two Meta types shows that there is presently little incentive for the traditionals to change toward the more modern. The Part-Time Livestock Producers are more entrepreneurial but the Traditional Resident Farmers are more profitable.

The final type, the New Entrepreneurs—Meta, consists entirely of crop producers, the majority of them producing rice. This type has held land for a shorter time than the other types. They also score highest on problem solving, lowest on routine habit, and highest on information seeking. The type is young and the best educated of all groups. It is also highest on education in agriculture.

The New Entrepreneur is a part-time, non-resident farmer. His is also the lowest score for the relative lucrativeness of agriculture. He invests a small percentage of both capital and working time in agriculture and devotes slightly less than average management time to the farm enterprise. He has a low score on the reason for absenteeism — indicating he is probably absentee for business reasons. But he is only slightly below average on degree of absenteeism and on cosmopolitaness. He also hires the highest quality farm manager, gives him the most responsibility, and pays him an above average salary. Together these variables indicate that the New Entrepreneur is a businessman or professional living in Villavicencio relatively close to the farm but for whom agriculture is a supplementary investment.

But the New Entrepreneur performs well economically, especially when total costs are concerned. He has better than average income over total costs per hectare, percent income of total costs, and total income over total costs. But his income over variable costs is below average, especially percent of income over variable costs. This occurs because his productivity is below average while his variable costs are average. He adopts more improved practices than the average, but keeps his costs down by using low quantities of labor. Although his investment in improved practices does not pay

particularly well, he is compensated by cheap land and low fixed costs.

But this New Entrepreneur in a frontier region faces problems. He experiences by far the largest scarcity of inputs — probably the reason for his low income over variable costs. He also faces a shortage of relevant information. He is the highest seeker of information, the biggest user of authoritative information sources, agriculture magazines, and peer sources. Finally he encounters some problems with markets and expresses some need for better markets. He has only average control of his market, reflecting the fact that modern markets for crops are only beginning to enter the plains.

Comparing the income measures of the New Entrepreneurs with those of the Traditional Resident Farmers show the disincentives to entrepreneurship in the area. The traditionals make more profit, especially in the measures of percent income of variable costs and total income over variable costs —the two measures most important to a traditional. In addition, modern crop production is more difficult, riskier, and requires more capital than extensive livestock production. These factors effectively cement the traditionals in place.

*Conclusions.* Since Valle and Meta were chosen as representative of two general types of areas of latifundios in Colombia, there is some basis to claim that the six typologies described above are fairly representative of Colombian latifundistas. The results of this study thus allow us to return with some answers to the questions posed earlier.

*Profitability and Input Constraints.* There does not seem to be inherent unprofitability in large-scale Colombian agriculture. Both very high profits and losses were found; the difference was largely influenced by the ability to manage resources. High productivity, however, generally does not pay. The most profitable entrepreneurs sacrificed high yields per hectare in order to reduce costs. Similarly, high labor use was less profitable than mechanization. A shortage of inputs is a key limitation, especially in newly opening regions like Meta. Inputs are available if the farm operator is able to buy ahead and sometimes travel long distances to get them. But those with limited management time often cannot get

inputs at the precise time that they are needed. And machinery parts are not always available when a machine breaks down. Finally, unpredictable important restrictions often make modern inputs too risky and costly for profitable use.

*Outside Interests and Absenteeism.* Outside professions, business positions, and investments do not limit latifundista decisions as long as they are flexible enough to allow travel to the farm every day if it is needed. The New Entrepreneurs — Meta and Successful Entrepreneurs — Valle both had other interests but both had the needed strategic management time. The Unsuccessful Entrepreneurs — Valle, however, were limited to being weekend farmers and as a result had poor returns. For traditionals, outside investments reinforce non-entrepreneurship by reducing their reliance on income from the farm.

Similarly, an absentee latifundista can be entrepreneurial if he lives close enough to the farm to be able to go there in a short time every day if necessary. Latifundistas living too far away generally produce livestock or are not profitable. Resident farm managers do not normally have the vocational training needed to take over management duties. Increased management training for these people could perhaps provide a solution for these latifundistas too absentee to be successful entrepreneurs.

*Reason for Holding Land.* The different types of latifundistas hold land for different reasons. The traditional types generally inherited it and hold it for the accretion in value. Those who rent land or who have purchased it within the past five years, however, hold it as a productive resource.

*Capital and Credit.* Lack of capital and credit are not important problems. Adequate credit is available, latifundistas invest only a part of their capital in agriculture, and enough credit is often available so that latifundistas can substitute borrowed funds for personal capital which they then invest elsewhere. Interest rates for agricultural credit are low in relation to rates of inflation. The problem in the credit area is inflexible credit policies which dictate that everyone should get the same percentage backing — which is too much credit for many and not enough for others.

*The Rationality Argument.* As the above discussion of the six latifundista situations has shown, the decision types and two of the decision criteria conceptualized here were nearly always among the most distinguishing characteristics of the typologies. Thus, the results throw some light on the relevance of the "economic man." In short, the model holds in some situations but not in others, and as such it is probably possible to find both confirmation and negation of the "rationality" hypothesis in any country of the world.

Economic rationality functions as one possible decision criterion during problem solving behavior, and some people in some situations use it in making decisions — especially the Successful Entrepreneurs in this study. Others do not weigh costs and returns and maximize their profits. They are satisfied with the situation, do not recognize it as problematic and thus behave in a routine habitual manner. The traditionals in this study, for example, could at least double or triple their returns by changing from livestock to crops. But because of a lack of management ability, information, and structural limitations mentioned above rationality in the neo-classic sense is not possible.

*Policy Recommendations.* An important question for policy is the relative number of the types described here. Because the sample used was a structured one, it is not possible to give exact percentages for the size of each group. But in Valle, the Successful Entrepreneurs seem to be the largest and fastest growing group. In Meta, the Traditional Resident Farmers and the Part Time Livestock Producers are the largest groups, but the New Entrepreneurs are the fastest growing group.

Thus, entrepreneurial latifundistas do exist in Colombia and are gaining in numbers. With government support they can probably contribute to the public purpose even more than they now do. Traditions, however, still exist. The basic reason seems to be the following. Traditional latifundistas are not profit maximizers, instead they seek a minimum adequate level of income or perhaps level of living. This level is generally enough for them to buy or build a fairly elegant house, belong to the better social clubs, and send their children to the best schools (often abroad). Income beyond this

level is not too important. More important is a leisurely life and stable investment in real estate or stocks. In other words, they seek a fixed level of income with the minimum use of their management time and capital (outside that invested in land). They can best achieve these requirements through extensive enterprises.

Policy measures under these circumstances should thus first be designed to reduce the traditional's income below the minimum level. Since he makes his profits through use of large quantities of land, limitations on farm size might be effective. Latifundistas could be forced to sell all land above a specified limit or be expropriated without compensation above the limit. This would also loosen up the land market and make land available to genuine entrepreneurs like the Successful Entrepreneurs who do exist but often cannot obtain with which to use their managerial talents. Much higher land taxes, if they were enforced, would also be useful.

To provide incentives to genuine entrepreneurship, there is a need for more practical information and technical assistance, basic changes in the marketing system for livestock (stressing vertical integration), increased availability and better distribution of inputs, and less emphasis on credit programs.

In conclusion, although entrepreneurial latifundistas are present, the potential economic development of Colombian agriculture does not seem to rest solely in this sector. One explanation of the underdevelopment of the Colombian economy is the widespread lack of income and effective demand in the peasant sector. Until that income is increased, demand for both manufactured goods and for food and agricultural products will be limited. Export demand at present is a sufficient incentive for large farm production although its saturation point cannot be far away. Capital exists in the latifundio sector which is not now being used. This sector could thus get by with fewer development funds than it is now receiving (most in the form of credit), funds which could be channeled toward the peasant sector for the purpose of increasing its productivity, income, and effective demand.