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HACIENDAS AND COOPERATIVES:
A Preliminary Study of Latifundist Agriculture
and Agrarian Reform in Northern Peru

by
DOUGLAS E. HORTON

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This paper is essentially a preliminary version of the author's Ph.D. thesis to be presented to Cornell University later in 1973.

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A Preliminary Study of Latifundist Agriculture
and Agrarian Reform in Northern Peru

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Douglas E. Horton*

*The author is currently on the staff of the Land Tenure Center Library, and is completing his Ph.D. dissertation for Cornell University.

All views, interpretations, recommendations, and conclusions are those of the author and not necessarily those of supporting or cooperating organizations.

The data and analysis presented in this paper call into question several commonly held beliefs. First, the haciendas under study have not evolved in a linear fashion from traditional, precapitalistic haciendas to modern, wage labor estates. In two of the four cases studied wage labor predominated over the last several decades. In the other two, both wage laborers and sharecroppers (colonos) have been employed. In one case wage laborers were employed prior to 1950, but sharecropping (colonato) was introduced for the first time in the 1950s. In both of these latter cases sharecropping gained importance relative to wage labor in the 1960s.

Second, the maintenance of precapitalistic social relations cannot be attributed to the "feudal mentality" of the hacendados. All four estates were owned by a prominent commercial firm which took an active interest in their management and the rationalization of production.

Third, "modern" large-scale, capital-intensive production is not necessarily more profitable or productive than more "primitive" production systems. In two of the four cases colonato was maintained for its profitability. In one case colonato was clearly more productive than wage labor. In the sugar estate, Pomalca, where the scale of production has been greatest and production methods have been modernized to the greatest extent, total production has not risen significantly in recent years. In this case the principal impact of modernization has been labor displacement; in the 1960s employment was cut by nearly half. Given the relative scarcity of capital and the over-abundance of labor in rural Peru, this process of modernization has been extremely costly on social account.

Fourth, although the psychological attachment of peasants to the land cannot be denied, it appears that peasants have solid economic grounds for opposing the formation of production cooperatives in two of the four cases. In these estates economies of scale in crop production are relatively unimportant, and problems of social organization are formidable. It is doubtful that courses in "capacitación" or "motivación" will convince the peasants that collective landholding is superior to individual farming. In these cases cooperativization of crop production would probably lead to a reduction in employment and an increase in capital use. Unless cooperativization were accompanied by technological improvements (e.g., use of better seeds, fertilizers, pesticides, and mechanization) crop production would probably fall.

Due to the dependence of agriculture upon land use, the natural environment, and biological processes, production economies of scale are less important in agriculture than those encountered in industry. In contrast, the economic and service infrastructure necessary for a productive agriculture (credit, markets, processing, research, technical assistance, health, and educational facilities) can best be provided by public and cooperative institutions on a large scale. In Europe service cooperatives have played an important role in promoting agricultural

growth and rural development. In Latin American countries the performance of service cooperatives has been rather poor, and the benefits generated have accrued primarily to large landowners. However, as the Peruvian agrarian reform liquidates the latifundist-dominated agrarian structure and the monopolistically controlled market structure, the scope for socially beneficial cooperation in service activities will broaden.

The imposition of cooperative production where economies of scale are unimportant and where opposed by the peasantry invites the failure of cooperative institutions and of programs to increase farm production, employment, and incomes. Evidence from other countries indicates that production cooperatives imposed on an unwilling peasantry tend to disintegrate over time. For these and other reasons the Peruvian agrarian reform is not likely to achieve the cooperativization of the bulk of agricultural production. Thus, the achievement of rapid agricultural growth and improvements in rural levels of living will depend in large part upon the creation of adequate infrastructural institutions to service both cooperatives and independent producers.

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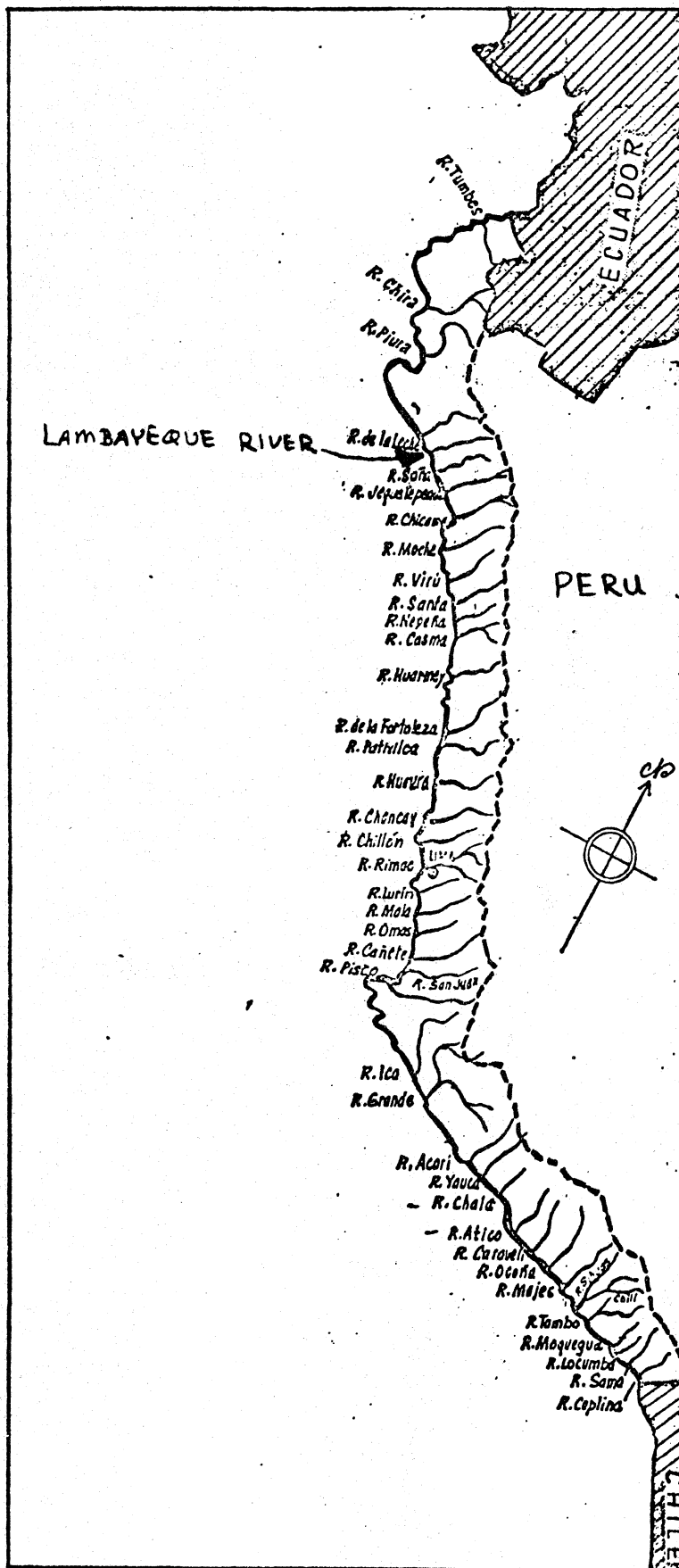
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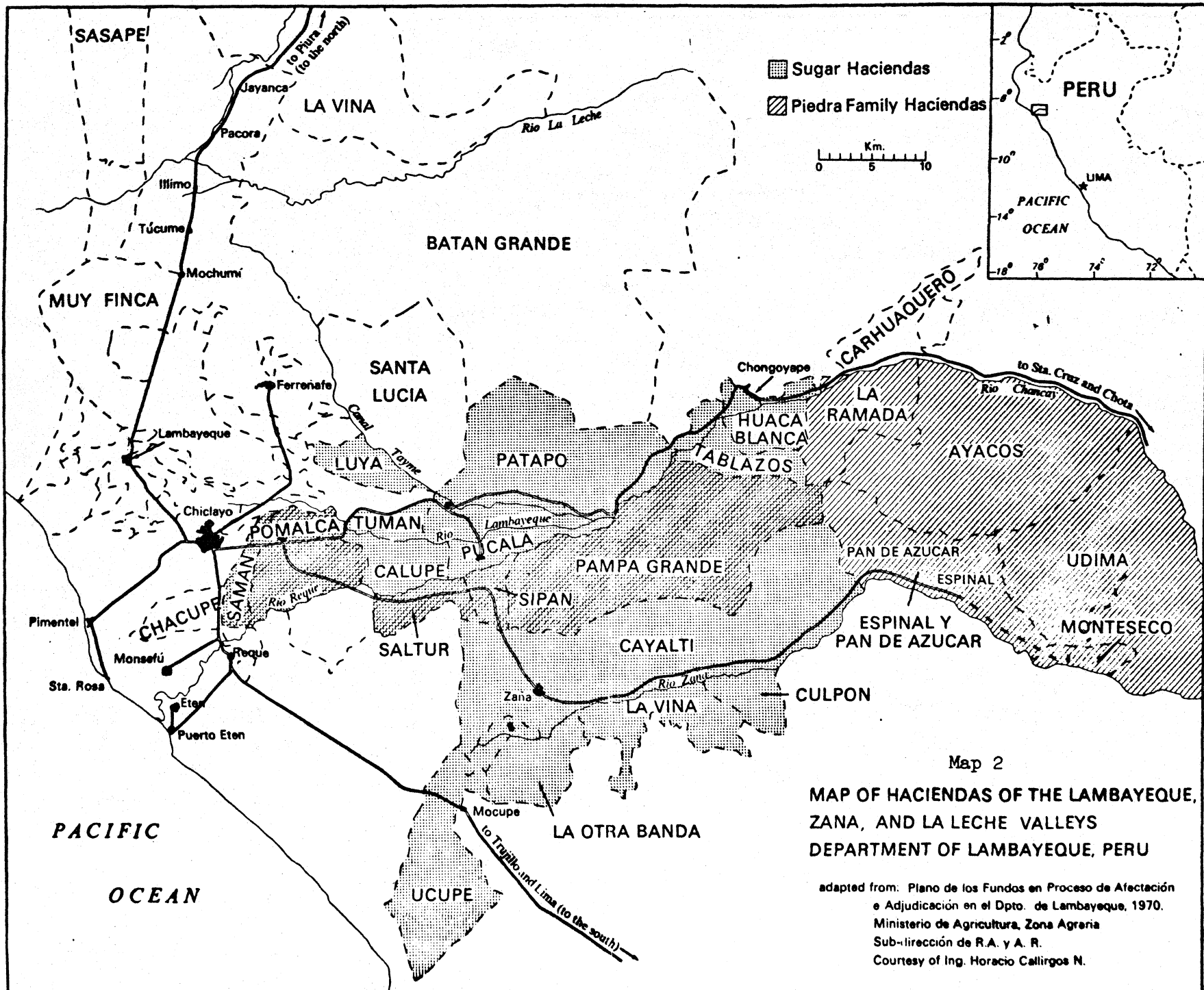
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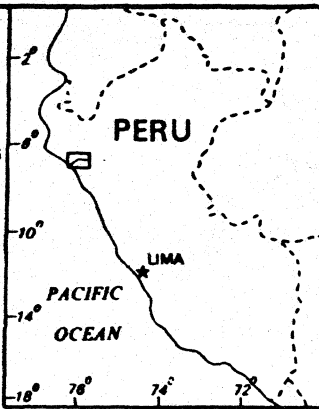
Map 1
Rivers of the Peruvian Coast

Adapted from: CIDA, Tenencia de la tierra...Perú, p. 317.



Sugar Haciendas
 Piedra Family Haciendas

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Map 2

**MAP OF HACIENDAS OF THE LAMBAYEQUE,
 ZANA, AND LA LECHE VALLEYS
 DEPARTMENT OF LAMBAYEQUE, PERU**

adapted from: Plano de los Fundos en Proceso de Afectación
 e Adjudicación en el Dpto. de Lambayeque, 1970.
 Ministerio de Agricultura, Zona Agraria
 Sub-dirección de R.A. y A. R.
 Courtesy of Ing. Horacio Callirgos N.

HACIENDAS AND COOPERATIVES:
A PRELIMINARY STUDY OF LATIFUNDIST AGRICULTURE
AND AGRARIAN REFORM IN NORTHERN PERU

Douglas E. Horton*

Part I. INTRODUCTION

The research upon which this draft paper is based was carried out in Peru from May 1970 until June 1972. Most of my time was spent on the north coast, interviewing people on, or familiar with, the haciendas of the Lambayeque Valley (see Maps 1 and 2). The last six months of my stay in Peru were spent in Lima, gathering secondary data, interviewing members of landowning families and agricultural technicians, and working with hacienda documents at the Centro de Documentación Agraria.¹

Part II summarizes very briefly the agrarian history of northern Peru, emphasizing changes in production patterns and hacienda organization in the last century, and the central role played by sugar in the agricultural growth of the region. Part III deals specifically with the haciendas

*The author is currently on the staff of the Land Tenure Center Library, and is completing work on his Ph.D. dissertation for Cornell University. He would like to express his appreciation to the many persons and institutions who have contributed to the research and write-up of this paper.

Those who have contributed most with ideas and encouragement are: Giorgio Alberti, Carlos Amat, Elviro Celis, Marco Antonio Corquera, Tom Davis, Efraín Díaz, Francisco Díaz, Folke Doving, Boguslaw Galeski, Paulita de Lopez Aliaga, Juan Martinez-Alier, Abner Montalvo, Orlando Plaza, Gervasio Rezende, Salvador Sanchez, and Mark Sonnenblick. Without the collaboration of many people in Pomalca, Espinal, Monteseco, and Udima; in the Ministry of Agriculture Office in Lambayeque; and in the firm "Sociedad Agrícola Pomalca Viuda de Piedra e Hijos S.A." my work would have been fruitless.

I am grateful for the funding I received from the Fulbright Commission and from the Latin American Studies Program of Cornell University. My advisors, Tom Davis, Donald Freebairn, and William Whyte, have provided me with invaluable encouragement and freedom to work, and they have been unexpectedly tolerant of my numerous delays and deviations from the conventional norms of thesis research.

Susan Ramirez Horton, Jane Knowles, Juan Martinez-Alier, James Petras, Marvin Sternberg, and William Thiesenhusen read an earlier version of this paper and made valuable suggestions. The author is, of course, solely responsible for the views expressed and for any errors that may remain.

¹The sources on which this research is based are discussed in an earlier paper: Susan and Douglas Horton, "Sources for the Investigation of Peruvian Agrarian History," LTC Paper no. 84 (February 1973).

of one of Peru's largest landowners, the Piedra family.² Changes in production patterns and hacienda organization are described in detail and related to local natural condition, technological advance, market forces, and social and agrarian legislation. Part IV analyzes the effects of agrarian reform and cooperativization on these estates. Part V summarizes the above, relates my own findings to the work of other students of agricultural organization and collectivization, and draws some conclusions of theoretical and practical importance.

²The correct Spanish surname is "de la Piedra."

Part II. HISTORICAL PERSPECTIVE

In the early colonial period precious metals were the American commodities most coveted by Europe, thus looting and mining were the most lucrative economic activities in Peru. Agriculture played a decidedly secondary role in the colonial economy; few agricultural commodities were exported, and the bulk of farm products were produced and consumed by indigenous families. The most prosperous agricultural regions supplied mines and ecclesiastical-administrative centers.

Regions such as the Lambayeque Valley, inhabited by sedentary indigenous populations but distant from important colonial markets, were marginal to the colonial economy, but not outside it. Villas were founded and Indians were integrated into the economy via the institutions of encomienda and tribute.

At the time of conquest, a significant, but undetermined, amount of agricultural land was held by the Incan Church and State.¹ Gradually this land was granted to, or purchased or usurped by, the Spaniards, and formed the nucleus of an incipient hacienda sector.

In many historical studies, the colonial hacienda is characterized as a self-sufficient institution, isolated from markets and from the external world in general. This may have been true at specific times for specific regions, but the investigations of Susan Ramirez Horton indicate that the haciendas of Lambayeque were market-oriented enterprises integrated into a complex economic system.² The first haciendas, termed estancias, purchased livestock from Piura and fattened them for slaughter. Grains and fresh meat were consumed locally; dried meat was sold to ships in port; hides and soap were shipped to Lima. Early in the seventeenth century, primitive, animal-powered trapiches were installed in the haciendas for milling sugar cane.³ Molasses and raw sugar were manufactured and sold in nearby markets; granulated sugar was exported to Guayaquil, Lima, Chile, and Panama; textiles and cattle were purchased in the sierra; chicha (corn beer) and foodstuffs were obtained from smallholders in the valley; iron and steel were shipped in from Lima; slaves were imported from Africa.

Haciendas were operated primarily as business ventures, and the agrarian economy of the region was far from static. Factor proportions varied over time, as did the types and volumes of production.

¹The Chimú state had been conquered by the Incas shortly before the Spanish conquest.

²Much of Part II is based on the work of Susan Horton, reported in her Master's Thesis, "The Sugar Estate in the Lambayeque Valley, 1670-1800: A Contribution to the Agrarian History of Peru," Department of History, University of Wisconsin, 1973 (forthcoming).

³The first trapiche we know of was in existence in 1622.

Property concentration occurred, as did bankruptcies and fragmentation. In the sixteenth century, haciendas were relatively small and their boundaries were loosely defined. In the seventeenth century consolidation occurred, followed by bankruptcies and fragmentation in the eighteenth century. In the late nineteenth century consolidation began again, and was greatly accelerated after the turn of the twentieth century.

While it is misleading to consider the haciendas of Lambayeque as either static or isolated, it is true that economic change in the colonial and early republican periods proceeded at a snail's pace in comparison to that of the twentieth century. This is because the technical change and market expansion which motivated rapid agricultural growth in the twentieth century proceeded much more slowly prior to the 1860s.

In the last century the principal crops grown in Northern Coastal Peru have been rice, corn, sugar cane, cotton, a variety of fruits and vegetables, and grasses and legumes for pasture.⁴ On large estates, the first four have been of greatest importance. Among these, sugar cane has been the most profitable, the most demanding in terms of water supply and soil quality, and the most subject to economies of scale. Consequently, sugar production has become concentrated on the best lands of the north where great expanses can be irrigated efficiently. The capital and political power of the sugar producers have been used to improve their land and insure themselves a stable supply of irrigation water. Rice is produced where the land is less suitable for large-scale cane production and irrigation water is less stable.⁵ Corn and cotton are grown on the most arid lands least suitable for cane cultivation.

⁴The following works contain valuable discussions of agriculture in northern Peru: Anales del Primer Congreso de Irrigación y Colonización del Norte: 19 de febrero - 24 de febrero de 1929 (Lima, 1929); Enrique L. Espinoza, "Estadística agropecuaria de la República: Informe relativo al Departamento de Lambayeque," Boletín del Ministerio de Fomento 3 (September 1905); Alejandro Garland, La industria azucarera en el Perú (1550-1895) (Lima, 1895); Eduardo Grillo, "Contribución al estudio de algunos aspectos básicos del agro peruano" (Thesis, Universidad Nacional Agraria, 1969); Gerardo Klinge, La agricultura de la costa y la situación alimenticia (Lima, 1944); Carlos Moreyra y Paz Soldán and Carlos Derteano, "Evolución de la agricultura nacional en el siglo XX," in Visión del Perú en el siglo XX, ed. José Pareja y Paz Soldán (Lima, 1962); Virgilio Roel, La economía agraria peruana (Lima, 1961); and Michael Twomey, "Ensayo sobre la agricultura peruana," Mimeo. (CISEPA, Universidad Católica del Perú, Lima, 1972).

⁵Poorly drained soils, brought recently under cultivation or rendered saline by years of intense cultivation, are suitable for corn and rice production, but not for sugar cane.

1860 marks the beginning of the modern sugar industry in Peru.⁸ Prior to that date the bulk of production was near Lima, but sugar was produced wherever demand existed and natural conditions permitted. Field and factory technologies were primitive by modern standards, and subject to no important economies of scale. Transport and marketing costs were onerous and effectively protected many producers against competition from more favorably endowed regions. Only small amounts of sugar were shipped between region and between Peru and other parts of the world.⁷

The introduction of steam and heavy-machine technology (first in ocean transport and factory equipment, later in rail transport, and finally in plowing) revolutionized the Peruvian sugar industry and endowed coastal sugar production with economies of scale unimagined in other types of agricultural production. Ocean transport linked the Peruvian coast with rapidly expanding European markets. Steam-driven factory equipment multiplied several thousand percent the productive capacity of the primitive mills. The railroad and the steam plow permitted a dramatic expansion of land under cultivation.

Among these heavy investments the least divisible--the factory process--determined the most profitable scale of operation. In cotton and rice production, the factory (cotton gin or rice mill) can be separated from the farm unit because harvested cotton and rice can be stored and transported economically, and because the programming of irrigation, seeding, maturation, and harvest is less subject to human control than in sugar cane production.⁸ Therefore, cotton and rice production have become concentrated and monopolistic at the processing and marketing stages, but not in field production. Sugar, in contrast, is most profitably cultivated and milled by integrated agro-industrial complexes.

In the past century sugar production has expanded in the most favorably endowed coastal valleys (notably Lambayeque, Zaña, Chicama, Santa, and Paramonga) and contracted in others (notably Piura, Lima, and Ica). Exports have risen as a fraction of total production. Factory size has increased markedly, and the number of mills has fallen. The market price of land in prosperous sugar valleys has soared, and scores of haciendas have been acquired by a few sugar producing corporations. On the coast

⁶The best single study of the Peruvian sugar industry prior to the twentieth century is Garland, La industria azucarera.

⁷In Lambayeque, and in Peru as a whole, two-thirds of the total sugar produced was consumed locally, and one-third was exported. See *ibid.*, p. 8.

⁸The technologies of rice and sugar production are described in the following Peruvian studies: Luis Montero B., El cultivo del arroz en el Perú (Lima, 1930); Esteban F. Skrabonja and José G. Gery, La caña de azucar (Lima, n.d.).

a dozen giant agro-industrial complexes have come to replace well over a hundred independent haciendas.⁹

The coastal valley most profoundly affected by the expansion of sugar was Chicama (see Map 1).¹⁰ Between 1860 and 1930 the economy and social structure of the valley was modified drastically. Nearly the entire cropland fell into the hands of three corporations. All crops but sugar lost ground, and traditional latifundist production and social systems disappeared. Wage labor replaced share-cropping and tenant-labor, and nearly the entire population of the valley became dependent upon the sugar estates for employment. The company town replaced the indigenous and mestizo village, and the company store replaced the local merchant.

The impact of the sugar boom reached far beyond the Chicama Valley. Rapidly expanding production demanded new labor which was captured by enganchadores (contract agents) in the highlands of La Libertad and Cajamarca. The city of Trujillo entered a period of commercial decay as the company stores of the sugar estates prospered.

The monopolization of land and economic activities, which produced such far-reaching social and economic dislocations in the Chicama Valley (and eventually the appearance of Peru's first and most durable mass-based political party--APRA) has been well documented by Peter Klaren, and need not be repeated here.¹¹ It is important to note, however, that Klaren's discussion of the sugar estates applies only to the Chicama Valley. The last century's history of this valley is a classic case of expansion of capitalistic latifundism, proletarianization, and populist social mobilization. But the history of Chicama is not the history of all of Peru's north coast. In other valleys the growth of large-scale production was less dynamic, and the resultant social and economic dislocations were less violent. Conditions specific to each valley influenced the pace and direction of its agricultural growth and the evolution of its agrarian structure. In the Chicama Valley geographical conditions were optimal for the control of river water and the irrigation of vast tracts of land. At mid-nineteenth century the haciendas of the valley

⁹No one has presented figures for the number of haciendas absorbed by the expansion of sugar complexes in all of the coast, but my work in Lambayeque and published figures for the Chicama Valley indicate that the number is certainly near, and possibly greater than, 200. For Chicama see CIDA, Perú: Tenencia de la tierra y desarrollo socio-económico del sector agrícola (Washington, D.C., 1966), pp. 19-23.

¹⁰The principal coastal valleys of Peru are described by David Robinson, Peru in Four Dimensions (Lima, 1964).

¹¹Peter Klaren, La formación de las haciendas azucareras y los orígenes del APRA (Lima, 1970).

already controlled the bulk of land, labor, and water.¹² In other valleys, local geography and social conditions frustrated the expansion of sugar. In Lambayeque, which now rivals Chicama in sugar production, irrigation systems were much more costly to install and maintain than in Chicama. Moreover, at mid-nineteenth century the non-hacienda population of the valley was nearly ten times the hacienda population.¹³ These factors greatly influenced the growth and organization of latifundist agriculture.

The revolution in technology and foreign markets had relatively little impact in the sugar producing valleys of the sierra. The use of large-scale steam technology was less advantageous in the highlands, and geographical barriers protected the primitive highland producers against outside competition.

Even on the coast small-scale sugar producers utilizing extraordinarily primitive technology continue to operate alongside the giant agro-industrial complexes. These firms produce chancaca (raw sugar) and miel (an ingredient in chicha). These products are not in direct competition with refined sugar, and are sold on small-scale, local markets.

¹² Figures from the Peruvian census of 1876 indicate that the communities of the Chicama Valley were small villages. Ascope, the largest, had 2,200 inhabitants; Paiján, 1,900; Santiago de Cao, 1,300. The total non-hacienda population of the Chicama Valley was 10,700 (5,500 males). At this date the hacienda population was 7,300 (5,900 males). Trujillo, in the Santa Catalina Valley to the south, had 7,500 inhabitants at the time of the census. See Perú, Dirección de Estadística, Resumen del censo general de habitantes del Perú hecho en 1876 (Lima, 1878).

¹³ In the Lambayeque Valley the indigenous community Monsefú had a population of 7,300; Ferreñafe has 7,000 inhabitants. The largest town in the valley, Chiclayo, had 11,300 inhabitants. The total non-hacienda population of the valley was 43,400 (22,600 males). The hacienda population was 4,700 (3,700 males).

Part III. THE HACIENDAS OF THE PIEDRA FAMILY

A. A Brief History of the Piedra Family and of the Family firm, "Viuda de Piedra e Hijos" (VPH)¹

In 1795, Leon de la Piedra migrated from Spain, settling in the valley of Cuenca, in what is now Ecuador. During the Wars of Independence his son, Juan Pablo de la Piedra, migrated to northern Peru. After studying law in the University of Trujillo he settled in Lambayeque, marrying into the greatest landowning family of the region (the Delgado family). In 1856 he purchased the hacienda "Patapo," but in 1864 the estate was resold to a Chilean, J.T. Font. Before his death, "Naranjal" and a few other relatively small estates were purchased.

The son of Juan Pablo de la Piedra, Ricardo, inherited these haciendas and several urban properties. He traveled to France to study medicine, but upon returning to Lambayeque did not practice medicine because of his own ill health. Like his father, Ricardo de la Piedra D. married into a wealthy family, and supported his household largely with the rents accruing from urban and rural property. This rental income was supplemented by interest on money let out to agriculturalists and cattlemen in the region.

Ricardo de la Piedra encouraged his sons not to seek professional careers but to learn business skills through practical experience. The three eldest sons, Ricardo, Augusto, and Enrique de la Piedra del Castillo, apprenticed with the local commercial houses of the Dall'Orso, Montenegro, and Maurtus families.²

In 1904, shortly after the death of Ricardo de la Piedra Delgado, his widow and three eldest sons founded the firm "Viuda de Piedra e Hijos" (VPH) in Chiclayo. The original capital invested was S/. 60,000.³ From 1904 until 1920 the principal activities of the firm were commercial and industrial. In 1904 a lot was purchased on the northwest side of Chiclayo,

¹Much of the material in Section A is drawn from a pamphlet by Franko Klinge, entitled "V.P.H. 50 años: 1904-1954" (Lima, 1954). Most of this material also appears in the sections on VPH and Pomalca in Ricardo A. Miranda, Monografía general del departamento de Lambayeque (Chiclayo, 1959). Interviews with Augusto de la Piedra C., Ricardo de la Piedra K., Julio de la Piedra C., Federico Mevius, Luciano Gonzales G., Franko Klinge, and several employees and ex-employees of VPH and the haciendas supplemented the published accounts.

²According to Augusto de la Piedra C., his first job (with the Montenegro firm) paid 16 soles monthly. When he complained to his father that the pay was very low, his father replied, "In school you pay for them to teach you. On the job you learn and they pay you too." Interview: Augusto de la Piedra C. (Lima) 29 May 1972.

³Franko Klinge, "V.P.H.," p. 14.

and a chocolate factory was constructed. The chocolate produced was sold under the label "Mayascón." Shortly thereafter, a rice mill--"Santa Rosa"--and a wholesale-retail house--"Casa Piedra"--were raised on the same lot. Aside from commerce in national and imported commodities, the Casa Piedra financed agriculture (particularly rice cultivation) in the region. Agricultural tools, barbed wire, and corrugated roofing were imported for sale to the haciendas. Flour and wrapping paper were sold to merchants in Chiclayo, Lambayeque, and nearby villages. Later, steel, lumber, and other construction materials were imported. The principal exports in this early period were sugar to Bolivia and hides and horns to Europe. Rice and other grains, straw hats, bees' wax, honey, and a wide range of other goods were shipped to Lima; textiles, processed foods and beverages, and other goods returned.

In 1912 the "Sociedad Agrícola Pomalca," then owned by the Gutierrez family, received authorization from Peru's national government to construct a pier in Pimentel and a railroad from the hacienda "Pomalca" through Chiclayo to that port (see Map 2). The Piedras, with a number of other prominent commercial families and agriculturalists (including Cuglivan, Montenegro, Dall'Orso, and Sociedad Agrícola Pucalá) promoted and financed this venture, and in 1915 VPH established a firm, "Agencia de Pimentel," which monopolized the flow of domestic and foreign shipping through the port. In the same year VPH opened an office in Lima which was later to become their principal office.

From 1915 to 1920 the ventures of VPH were extraordinarily prosperous. Cabotaje (coastwise trade) proved lucrative, but much more so was the sale of sugar to New Orleans during and shortly after World War I. Between 1915 and 1920 the export price of sugar more than doubled, reaching the highest level it had ever reached and would reach again until 1944.⁴ In May 1920, in view of the magnificent sugar market, and basing themselves on the simple, but erroneous, proposition that, "If selling sugar is profitable, then producing and selling it should be even more so,"⁵ VPH purchased the "Sociedad Agrícola Pomalca." Three months later they purchased the largest hacienda in Cajamarca, "Udima," from the heirs of General Miguel Iglesias. The purchase price of Pomalca was S/. 2,000,000; that of Udima was S/. 1,300,000.⁶

⁴Based on average annual prices, from Peru's Extractos estadísticos (1918-1943) and Anuarios estadísticos (1944-present).

⁵Interview: Franko Klinge (Miraflores, Lima) 2 June 1972.

⁶The means by which VPH financed the purchase of these two haciendas within a three-month period is not entirely clear. Enrique de la Piedra C. served as Senator and Ministro de Hacienda y Comercio under Leguía, and rumor has it that state money or funds of Leguía were involved in the transactions. The involvement of E. Piedra in a supposed assassination plot against Leguía complicates this issue. But legal action was never taken by the state or by the Leguía family, and no concrete documentation of this point has surfaced. The Piedra family managed to pay off its mortgage on Pomalca only during the boom of sugar prices in the Second World War.

Since 1920, Pomalca has been dominant among the economic interests of the Piedra family. A few unprofitable ventures have been liquidated. Most of the previously established businesses continue to operate, however, and others have been founded. The Casa Piedra remains one of Chiclayo's principal suppliers of lumber and building materials; Santa Rosa is one of the largest rice mills in the valley; chocolate is still made and marketed under the label Mayascón. The Agencia de Pimentel was liquidated in 1945, being replaced by the Piedra-owned "Agencias de Lambayeque S.A.," which monopolizes trade and shipping through both Pimentel and Eten (the only ports in the department of Lambayeque). VPH has gained control of the "Compañía del FFCC y Muelle de Pimentel," which operates the only railroad in the department.

Prior to 1924, VPH operated a small fleet of ships which transported cargo and passengers between the various ports of Peru's coast. In 1917 and 1920, VPH opened shipping agencies in Callao and Huacho. These were abandoned in 1921 and 1922. In 1924, the firm liquidated its shipping business altogether, turning over the bulk of its fleet to Miguel Arbulú G., from whom VPH purchased the hacienda "Samán." This proved to be a very shrewd maneuver, since the construction of the Panamerican highway ruined the business of cabotaje, and Arbulú lost, rather than made, money in shipping.

The Piedras purchased Udima in order to acquire a stable supply of laborers, draft animals, and meat for Pomalca, but these commodities were not readily extracted from the highland hacienda. The people of Udima resisted work assignments on the coast, and during several years the net flow of labor was to the hacienda rather than from Udima to the coast. In 1920, the economy of Udima was quite extensive and unproductive, but the intensification of production was a much more difficult and risky venture than the administrators of VPH expected. Investments were made in irrigation and pasture improvement to increase the capacity of the hacienda, but the results were mixed. A cheese factory was constructed, purebred cattle were purchased, and a Swiss technician was hired to manage the estate. But cheese production was unprofitable over the long run and finally abandoned.

In the 1930s coffee was planted in a previously unexploited, humid section of the hacienda known as "Montesecco." By the 1940s, this plantation had become Peru's largest exporter of coffee. Below Montesecco, in a hot, malarial stretch of forest along the Zana river known as "El Espinal," rice was sown. Experiments were made with pineapples, grapes, and other new crops, but failed. Growing conditions were adequate but transport and markets were lacking.

In the 1940s, the cropland of Espinal was plowed up and seeded to pasture. Dairy cattle were brought from Udima and the milk produced was curdled and transported to the sierra for cheese making. In the 1950s, dairying was abandoned in Espinal and rice was sown again, this time with new varieties and a new labor system--colonato. In the 1950s, cheese production was gradually abandoned in the highlands, and Udima reverted to the extensive production of beef and wool for coastal markets. In the 1960s, Montesecco's "miracle crop," coffee, became progressively less profitable, and in the late 1960s produced net losses.

In 1933, the Piedras took over a debt-ridden hacienda, "Saltur," and seeded it to sugar cane. In 1943, they bought an adjacent hacienda, "Sipán," and extended cane cultivation to it. In 1954, the Piedra's railway was extended up the valley to their hacienda "Pampa Grande" and cane displaced rice there too. Throughout this period cane cultivation was extended and intensified in the hacienda Pomalca.

In the mid-1960s, rail transport of cane was replaced by truck transport, freeing Pomalca from dependence upon its own cane production and encouraging numerous independent landowners to produce cane under contract for milling in Pomalca.

World War II had a very favorable impact on sugar prices, but blocked the import of goods--including capital goods--to Peru. For this reason in the 1940s the Piedras began investing in urban real estate. In the post-war period they continued to channel funds into urban properties, and by the 1960s possessed substantial assets outside of their agricultural and related properties in Lambayeque.⁷

After the mid-1950s no significant investments were made in Udimá, Monteseco, or Espinal. The interests of the family were concentrated largely in Pomalca and its sugar-producing annexes. According to the owners, the sugar business remained the most profitable one on their economic horizon.⁸ At no time has VPH diversified into industrial or other activities unrelated to the haciendas or urban property.⁹ Tables 1 and 2 present basic data on the haciendas of the Piedra family.

⁷In Carlos Malpica's classic, Los dueños del Perú (Lima, 1968), useful data are presented on the property and business interests of Peruvian landowners, including the Piedra family.

⁸Several interviews: Ricardo de la Piedra K. and Julio de la Piedra C. (Lima) 1971-1972.

⁹Enrique de la Piedra C. died in 1948. In the early 1960s his son Boris sold his stock in VPH to Ricardo de la Piedra C. and his heirs, and invested heavily in the fishing business.

The first part of the report deals with the general situation of the country and the progress of the work during the year. It is followed by a detailed account of the various projects and the results achieved. The report concludes with a summary of the work done and a list of the publications issued during the year.

The second part of the report deals with the financial situation of the institution. It gives a detailed account of the income and expenditure for the year and shows the progress of the various funds. It also gives a list of the donors and the amount contributed by each.

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Table 1. Historical Data for the Haciendas of the Piedra Family

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|--|------------------|----------------------------------|---|------------|-------------------------|----------------------------|---------------------------------|
| | Date of Purchase | Seller | Principal Crop or Cattle | Population | Labor-Tenure System | Source of Labor | Direct Administration or Rental |
| Pomalca y Collud | 1920 | Gutierrez family | 760 fra. sugar cane 120 fra. alfalfa and gramalote | 2,000 | wage labor | enganche | direct |
| Samán | 1923 | Santiago Luis Gonzales | 390 fra. rice, cane, corn, alfalfa, and gramalote | 120 | wage labor | enganche | rented |
| Larán y Anexos | 1938 | Miguel Arbulú Gonzales | | | | | direct |
| Saltur y La Punta | 1933 | Ibañez family | (limestone and firewood) | 50 | wage labor | | direct |
| Sipán | 1941 | Pedro Antonio Delgado | rice and corn | 200 | wage labor and colonato | enganche and residents | direct |
| Pampa Grande y El Palmo | 1911 | Ramón Navarrete | rice, corn, and gramalote | 300 | wage labor and colonato | enganche and residents | rented |
| Mocde y Anexos | 1957 | Oneto family | | | | | |
| Udima y Ayacos Monteseo Espinal y Pande Azúcar | 1920 | Iglesias testament | 9,000 head of cattle (5,000 owned by resident, 4,000 by hacienda) | | | "obligacioneros" residents | direct |
| Haranjal y Anexos | 1934 | Various persons | | | | | |
| La Ramuda | 1936 | Odar y Checa family | | | | | |
| San Juan y Anexos | 1959 | Heirs of Ramón Salazar y Salazar | | | | | |
| La Pampa | 1941 | Compañía Agrícola La Pampa | | | | | |
| San Jacinto | 1945 | Eduardo Cuneo | | | | | |
| Sta. Margarita y Anexos | 1958 | Daniel Yahiro Ky | | | | | |
| Sta. Ana | 1916 | Various | | | | | |
| Quinta los Mangos | 1938 | Arbulú Gonzales family | | | | | |
| Huanabal | 1968 | Pita Centurión family | | | | | |

Sources: Cols. (1) and (2): Notes of Susan Ramirez Horton from the Registro de Propiedades e Inmuebles de Chiclayo (Property and Real Estate Registry).
 Cols. (3) (7): Carlos Bachman, Departamento de Lambayeque: Monografía historico-geográfica (Lima, 1921).

Table 2. Basic Data on the Haciendas of the Piedra Family, 1969-1970

| | Total Area (Ha.) | Principal Activity | | Population | Number of Workers | Labor-Tenure System | Direct Administration or Rental |
|--------------------------------------|---------------------|----------------------|-------------------|------------|----------------------|------------------------|---------------------------------------|
| | | Crop or Livestock | Area or Number | | | | |
| Pomalca y Collud | 6,683 | Sugar cane | 4,210 Ha. | | | | |
| Samán | 1,681 | " " | 742 | | | | |
| Larán y Anexos | 150 | " " | 119 | | | | |
| Saltur y La Punta | 1,921 | " " | 1,410 | 23,230 | 3,249 | wage labor | direct |
| Sipán | 1,664 | " " | 1,548 | | | | |
| Pampa Grande y El Palmo | 4,239 | " " | 3,103 | | | | |
| Mocce y Anexos | 458 | " " | 188 | | | | |
| | | Rice | 16 | | | | |
| Udima y Ayacos | 39,500 | Cattle | 3,448* | 3,000 | 239** | colnato | direct |
| | | Sheep | 3,048* | | | | |
| Monteseo | 1,960 | Coffee | 850 | 1,398 | 447 | wage labor | direct |
| Espinal y Pan de Azúcar | 8,213 | Rice | 241* | 1,153 | 45** | colnato | direct |
| | | Sugar cane | 46 | | | | |
| Naranjal, La Pampa, y San Jacinto | 682 | Sugar cane | 210 | | | wage labor | rented |
| | | Rice | 481 | | | | |
| La Ramada | 317 | " " | 189* | | | colnato | rented |
| San Juan y Anexos | 372 | " " | 372 | | | wage labor | rented |
| Sta. Margarita y Anexos | 18 | " " | 18 | | | wage labor | rented |
| Huanabal | 86 | " " | 77* | | | wage labor | rented |
| Sta. Ana | 148 | " " | 77* | | | colnato | rented |
| Quinto los Mangos | 7 | Sugar cane | 7 | | | wage labor | direct |

*Does not include 2,345 head of cattle and 2,158 head of sheep in Udima, which are property of the colonos; and 287 hectares of rice in Espinal, 128 hectares in La Ramada, 9 hectares in Huanabal, and 71 hectares in Sta. Ana.

**Does not include 25 part-time workers who reside in Espinal, or laborers contracted outside the hacienda. The calculation for Udima includes 76 employees and full-time workers in addition to an average of 163 "pchaqueros."

Sources: "Proyecto de adjudicación: Completo agro-industrial Pomalca"; Estudio socio-económico del fundo: Udima; Estudio...Monteseo; Estudio...Espinal-Pan de Azúcar. Perú, Ministerio de Agricultura, D.G. de R.A. y A.R. (Lima and Lambayeque, 1970).

B. VPH and SAP as Legal and Administrative Units

As noted above, the firm Viuda de Piedra e Hijos (VPH) purchased Sociedad Agrícola Pomalca (SAP) and the hacienda Udima in 1920. Later two relatively independent annexes were developed within the original boundaries of Udima: Espinal and Monteseco. Saltur, Sipán, and Pampa Grande plus a number of smaller estates were annexed to Pomalca, and supplied cane to its mill. All these estates were administered directly as four sections of one agro-industrial complex:

Pomalca y Anexos: Sugar production;

Espinal: Rice production;

Monteseco: Coffee production;

Udima: Cattle, wool, and cheese production.

Several relatively small estates owned by the Piedra family have been rented to other agriculturalists in the region, and are operated as production units largely independent of Pomalca. The list of these fundos is long, but two are of particular importance:

Naranjal: Rice and sugar cane production;

La Ramada: Rice production.

Until recently, VPH and SAP were maintained as independent legal entities, each owning a number of haciendas and other assets. Stock in these corporations, however, was owned by the same members of the Piedra family in exactly the same proportions. Moreover, the same board of directors presided over both companies. In Lima, VPH and SAP occupied the same offices and employed the same administrative and secretarial personnel. They were, therefore, one and the same for all but strictly legal (primarily taxation) purposes.¹⁰

In 1964, a third corporation, "Negociación Monteseco S.A.," was founded it too was owned by members of the Piedra family and formed part of the larger administrative structure. Monteseco was separated legally from Udima and Espinal to avoid its possible affectation under the agrarian reform law (No. 15037) of 1964. In 1969, just prior to the declaration of the new agrarian reform law (No. 17716), SAP and VPH were unified legally in the corporation "Sociedad Agrícola Pomalca Viuda de Piedra e Hijos S.A." Two principal reasons motivated this fusion: (1) to prevent Espinal and Udima from being affected by the agrarian reform law of 1964; and (2) to streamline administration of the haciendas owned by the family. The

¹⁰ Several reports and letters referring to the advantages and disadvantages of the fusion of VPH and SAP are among the business papers of Pomalca (now at the Centro de Documentación Agraria in Lima).

tax savings from legally independent status had ceased to be of economic significance.¹¹

As of 1959, the Directory of VPH and SAP was the following:¹²

| | |
|-------------------------------------|---|
| President | Ricardo C. de la Piedra C. |
| General Director | Augusto F. de la Piedra C. |
| General Director | Julio de la Piedra C. |
| Director | Boris de la Piedra E. |
| Manager | Ricardo de la Piedra Klinge |
| Manager | Augusto de la Piedra Lora |
| Sub-Manager | Juan de la Piedra Izaga |
| Legal Representatives ¹³ | Luis G. de la Piedra C. Eduardo G. de la Piedra C. Federico Mevius N. |

The following is a list of the major stockholders of VPH in 1964.¹⁴

Principal Shareholders: VPH, 1964¹⁵

| | <u>Number of Shares Held</u> |
|--|------------------------------|
| Ricardo de la Piedra C. | 40,596 |
| Augusto de la Piedra C. | 12,402 |
| Luis de la Piedra C. | 400 |
| Eduardo de la Piedra C. | 400 |
| Julio de la Piedra C. | 400 |
| Boris de la Piedra E. | 22,486 |
| Juan de la Piedra I. | 539 |
| Ricardo de la Piedra K. | 202 |
| Augusto de la Piedra L. | 786 |
| Bertha de la Piedra de Perez | 1,997 |
| Adolfo Pomar, como gerente de: ¹⁶ | |
| Inmobiliario Hda. Vieja S.A. | 3,804 |
| Inmobiliario Lambayeque S.A. | 9,225 |
| Inmobiliario Trapiche S.A. | 564 |

(cont. on p. 16)

¹¹Ibid.

¹²Miranda, Monografía general, n.p.

¹³"Apoderados generales."

¹⁴This list is from the report of a stockholders' meeting, 14 May 1964. Not all stockholders were present.

¹⁵Later in 1964 Boris de la Piedra E. sold his shares in VPH to Ricardo de la Piedra C. and his heirs.

¹⁶The real estate companies represented by A. Pomares are owned by members of the Piedra family.

Principal Shareholders: VPH, 1964

| | <u>Number of Shares Held</u> |
|--------------------------------|------------------------------|
| Adolfo Pomar, como gerente de: | |
| Inmobiliario Darsa S.A. | 384 |
| Inmobiliario La Giralda S.A. | 203 |
| Alejandro Bertello | 20 |
| | <u>94,408</u> ¹⁷ |

In what remains of Part III, I will describe in greater detail the historical evolution of production, technology, and social relations in the four principal sections of the Piedra complex: Pomalca, Udima, Montesecco, and Espinal.

C. The Evolution of Production and Hacienda Organization

1. Pomalca

Since the seventeenth century, when cane was first planted and a wooden trapiche installed, Pomalca has produced raw sugar, granulated sugar, and molasses. But, as noted above, only in the last century has cultivation and production expanded dramatically. In this period a series of revolutionary technological advances and violent fluctuations in market demand have occurred, with profound repercussions on the agrarian structure of the north coast. Among the various changes which have occurred, the introduction of mechanical power (first steam, later electricity and diesel engines) in cultivation, transport, and milling has had the greatest social and economic impact.¹⁸

Prior to the 1860s, Pomalca's sugar was milled in a vertical, animal-powered trapiche. The quality of rollers and their size could be varied as could be the number of hours, days, and months of milling per year, but the volume of cane milled by each trapiche was limited by the source of power--the yunta (yoke of oxen). By the eighteenth century the principal haciendas of Lambayeque milled with several tapiches. Tumán, for example, had four. Since the size of each animal-powered trapiche was restricted, the expansion of production was accompanied by no technical economies of scale.

Steam power promoted an "industrial revolution" in sugar milling and refining which multiplied by several thousand percent the capacity of each production unit. The introduction of steam-powered factory equipment required massive fixed investments, and thus a substantial increase in fixed costs, making sugar production lucrative only at a high volume of

¹⁷The total number of shares outstanding at the time of the meeting was 109,600. However, only 94,408 were represented at the meeting.

¹⁸Garland, La industria azucarera; Gerardo Klinge, La industria azucarera en el Perú (Lima, 1924).

operation. Factory technology also created bottlenecks in cane transport and plowing. These bottlenecks were broken successively through the introduction of the rail transport and the Fowler steam plow.

In few branches of agriculture in few parts of the world is the schedule of cultivation more rigidly determined by the technology of subsequent processing than in sugar production on Peru's coast. Typically agriculturalists prepare their soil, seed, weed, and harvest in a sequence determined by climate, weather, and the pace of genetic cycles. Crops are planted when temperature and water conditions are best, and are harvested when mature. Cultural and economic considerations influence the crop mix, rotation, and the precise nature and timing of tasks, but factors beyond the control of man impose a seasonal schedule on agriculture.¹⁹ In animal husbandry climate also influences the scheduling of tasks. Breeding, for example, is scheduled so that parturition and lactation occur in months of abundant pasture. Wool is sheared during months of relative warmth.

The cultivation of sugar cane on Peru's north coast does not adhere to this cyclical, sequential model of agricultural production. In this region seasonality is much less pronounced than in most parts of the world. Temperature and sunlight are adequate for cane growth throughout the year, and rainfall is negligible.²⁰ Irrigation is necessary for cultivation, but the gentle, natural incline of the coastal valleys' land toward the sea makes the use of river water for irrigation relatively cheap. Cane seeding is possible much of the year, and irrigation can be regulated to cause artificial maturation and concentration of sucrose at any given time for harvest.

¹⁹The agricultural production process is contrasted to the industrial process by John M. Brewster in "The Machine Process in Agriculture and Industry," Journal of Farm Economics 32 (1950). See also Karl August Wittfogel, "Communist and Non-Communist Agrarian Systems, With Special Reference to the U.S.S.R. and Communist China: A Comparative Approach," in Agrarian Policies and Problems in Communist and Non-Communist Countries, ed. W.A. Douglas Jackson (Seattle, 1971); John Mellor, The Economics of Agricultural Development (Ithaca, 1966), Chap. 20; and Don Kanel, "Size of Farm and Economic Development," Indian Journal of Agricultural Economics 22 (1967).

²⁰Most years rainfall is negligible, but occasionally (e.g., in 1925 and 1971-72) rains are heavy and flooding disastrous. An account of the 1925 climactic changes is presented by Robert Cushman Murphy in "Oceanic and Climactic Phenomena Along the West Coast of South America During 1925," The Geographical Review 16 (1926). This study does not mention Lambayeque, since the author did not go on shore between Trujillo and Talara; but Miranda (1927) and Anales del primer congreso present useful accounts and photos. See also Preston E. James, Latin America (4th ed., New York, 1969), on the geography of Peru, and the classic works of Collin Dellavaud, Les Régions Côtières du Pérou Septentrional (Lima, 1968); and Joseph Tosi, Zonas de vida natural en Perú; memoria sobre el mapa ecológico del Perú (Lima, 1960).

While cultural operations in any given field are performed sequentially, the dates of initiation and termination of biological cycles are determined by the cultivator (not by nature), and thus, operations are performed in different fields simultaneously. This simultaneity of production allows both the specialization of the work force by function (impossible in the typical, cyclical agricultural production process) and the scheduling of all cultural practices to maximize the sugar content of cane harvested.²¹

Year-round cane production and sugar fabrication requires a steady source of labor working on a rigid production schedule. Factory work is, by nature, more strictly paced by mechanical processes and less subject to the discretion of the laborer than is field work. Factory workers, however, need a degree of familiarity with machine processes not required for manual labor in the fields. As a result, mill workers in Pomalca have always been a relatively privileged group of stable workers.²²

Work in the cane fields of Pomalca has always been done by gangs of laborers under the supervision--and until very recently the whip²³--of Caporales, Mayordomos, and Jefes de Zona. The caporal is a type of working foreman, who earns the same pay as manual laborers, but measures off work-allotments and keeps work moving as rapidly as possible. The mayordomo is an employee who distributes work tools and indicates the type of work to be done and the manner in which it is to be performed. The jefe de zona is responsible for all work done in his zone--an area of perhaps 1,000 hectares--and for maintaining order among the laborers of the zone.

Since the turn of the century, field work in Pomalca has been done largely by migrant laborers from Catacaos (Piura), Chota (Cajamarca), and the nearby villages of Lambayeque. A large proportion of these transient laborers became enganchados--owing money to a contracting agent, or enganchador. This debt was to be canceled through labor on Pomalca. The most onerous, but most highly remunerative, work--cane cutting, loading, and work on the railroad line--was done by the Chotanos. The lighter cultivation tasks were done by coastal laborers from Piura and Lambayeque. In the early part of the century loans were made to unsuspecting Indians in order to entrap them for work on the sugar estates. Working conditions were oppressive, wages were low, and tuberculosis and

²¹Production is also scheduled to keep the factory operating near capacity, year around.

²²Even in colonial times, the maestro de azucar, a slave, was considered a specialist and received monetary incentives, more and better cloth, and a special food ration.

²³See Part III.D. below.

malaria decimated the work force.²⁴ Through manipulation of pay rates and debt repayment, enganchadores operated as wage-debt slavers. As demographic pressure increased, health conditions improved, and the "market mentality" spread to the pueblos of the coast and the sierra, the coercive aspects of enganche waned, and labor flowed to and from Pomalca more freely. The last remnants of this inhuman trade have not disappeared, however, even with the unionization of sugar workers and the mechanization of cane loading and transport in the 1960s. In 1961, the Chotanos, who were "cannon fodder" for the unionization movement, were expelled from Pomalca and rehired by an ex-technician from the hacienda Tumán. They are now housed in adobe barracks in the filthiest slum of Chiclayo and trucked daily to Pomalca for work in the fields.

In the present century great technical advances have been made in the cultivation and transport of sugar cane. New varieties have been introduced, as have fertilizers and insecticides. Sophisticated biological control is utilized to combat cane borers. Land leveling and tillage practices are highly mechanized and efficient. Reservoirs have been excavated and scores of wells perforated. Techniques of irrigation and drainage are near-optimal.²⁵

Social conditions, on the other hand, remain oppressive. Most factory work is "machine paced"--determined by the mechanical routine of industrial technology. In contrast, the pace of field work is much more highly variable, making vigilance and personal sanctions much more important for centrally administered field work than for factory work. It has always been in the field that the greatest abuses and violence have occurred. Cane cutters and loaders have initiated work-stoppages and protests on numerous occasions. The "ideas" behind unionization came from the factory workers, but the physical strength and violence came from the cane cutters and loaders.²⁶

Large scale production for export, high finances, technological advance in field and factory, and massive labor requisitioning and control necessitated a complex administration and competent technical staff. Among the original owners, Augusto de la Piedra C. was encharged with management of the haciendas; Ricardo de la Piedra was general accountant for VPH; Enrique de la Piedra was financier, general manager of the family's

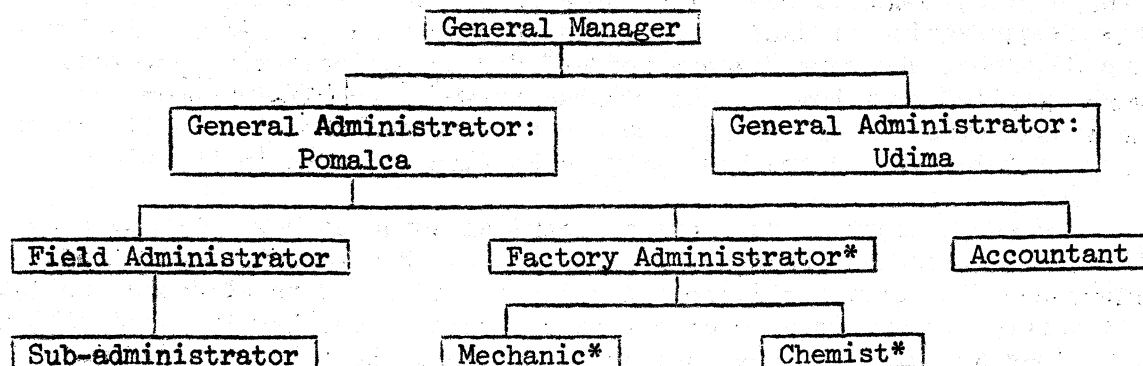
²⁴ See reports on health and living conditions in Anales del primer congreso.

²⁵ According to Dietrich Wolfgang, head of the German Tinajones mission in Lambayeque, the irrigation and drainage systems of the sugar complexes are among the best in the world.

²⁶ Several interviews: Luis de la Piedra (Salaverry) September 1971; Luciano Gonzales (Pomalca) November 1970; Franko Klinge (Miraflores, Lima) June 1972; Eliseo Vidal (Pomalca) May 1971; [?] Lache (Buenos Aires, Trujillo) October 1971.

interests, and politician.²⁷ Three younger brothers, Julio, Luis, and Eduardo de la Piedra, were entrusted with the administration of the rice mill, Casa Piedra, railway, and port facilities.²⁸

In the 1920s the organizational chart of the haciendas was of the following form:



*Starred positions were occupied by foreigners (usually English); other positions were occupied by Peruvians. This hacienda organization came under the administrative organization centered in Lima.

With time, as Saltur, Sipán, and Pampa Grande were annexed to Pomalca, as the factory expanded and increased in complexity, and as labor conflicts and social problems proliferated, the organigram increased in complexity, but retained this basic form. As the second generation of owners came of age, several sons were trained and assumed technical and administrative control of Pomalca.²⁹

Table 3 and Figure 1 document the evolution of production, employment, profits, and incomes in Pomalca over the last half century.

²⁷ Enrique de la Piedra was senator from Lambayeque in the National Congress from 1919 to 1924. In 1924 he was Minister of Finance for six months.

²⁸ The three younger brothers were not stockholders in VPH or SAP.

²⁹ Prior to the agrarian reform, Ricardo de la Piedra, Klinge, Juan de la Piedra Izaga, and Augusto de la Piedra Lora occupied the positions of General Manager, Field Administrator, and Factory Administrator, respectively. Enrique de la Piedra Nue and Luis de la Piedra Alvisuri (non-owning relatives) were Accountant and Head of Labor Relations, respectively. In addition to these five men, there were 28 others on the technical staff: 4 medical personnel; 4 field technicians; 7 factory and laboratory technicians; 4 technicians in the tractor, truck, and general machine shops; and 9 professionals in the administrative and accounting offices. The formal criterion for "technician" or "professional" status was possession of a college degree. A few of the older technicians, however, did not meet this criterion.

Table 3. Pomalca. Data on Production, Profits, Labor Force, and Wages, 1874-1973

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|------|-------------------------------|------------------------------|-----------------------------------|---|-------------------------|------------------------------|----------------------------------|--|
| | Area Harvested (faga.)* | Cane Milled (000 T.M.) | Sugar Produced (000 q.g.)** | Profit (millions of Peruvian soles) | Number of Workers | Percent "Engan- chado" | Daily Cash Wage (in soles) | Cash Wage at 1969 Prices (in soles) |
| 1874 | 100*** | | | | | | | |
| 1909 | 500*** | | | | | | | |
| 1921 | 824*** | 111 | 231 | | 850 | 73 | 1.50 | 31.25 |
| 1930 | 662 | 211 | 585 | | 1,220 | 68 | 1.30 | 31.71 |
| 1940 | 1,094 | 393 | 861 | | 3,260 | 36 | 1.10 | 24.44 |
| 1950 | 1,288 | 444 | 1,075 | 20 | 5,100 | 45 | 3.80 | 21.00 |
| 1960 | 2,030 | 873 | 1,951 | 42 | 7,100 | 34 | 16.20 | 42.30 |
| 1965 | 1,859 | 855 | 1,763 | -10 | 3,630 | 16 | 27.80 | 47.36 |
| 1966 | 2,331 | 953 | 1,946 | -2 | 3,040 | 14 | 32.80 | 51.33 |
| 1967 | 2,075 | 802 | 1,753 | 18 | 3,080 | 13 | 37.20 | 53.07 |
| 1968 | 2,408 | 797 | 1,785 | 60 | 3,180 | 13 | 40.00 | 45.98 |
| 1969 | 1,993 | 744 | 1,687 | | 2,740 | 6 | 52.50 | 52.50 |
| 1970 | 2,251 | 895 | 1,846 | | 2,740 | 5 | 57.10 | 53.97 |
| 1971 | 1,962 | 853 | 1,898 | | 3,000 | 5 | 74.60 | 68.76 |
| 1972 | | | | | 3,360 | 15 | 84.50 | 69.60 |
| 1973 | | | | | 3,130 | 11 | 105.54 | |

*One fanegada is equal to approximately 3 hectares.

**One quintal equals 100 lbs.

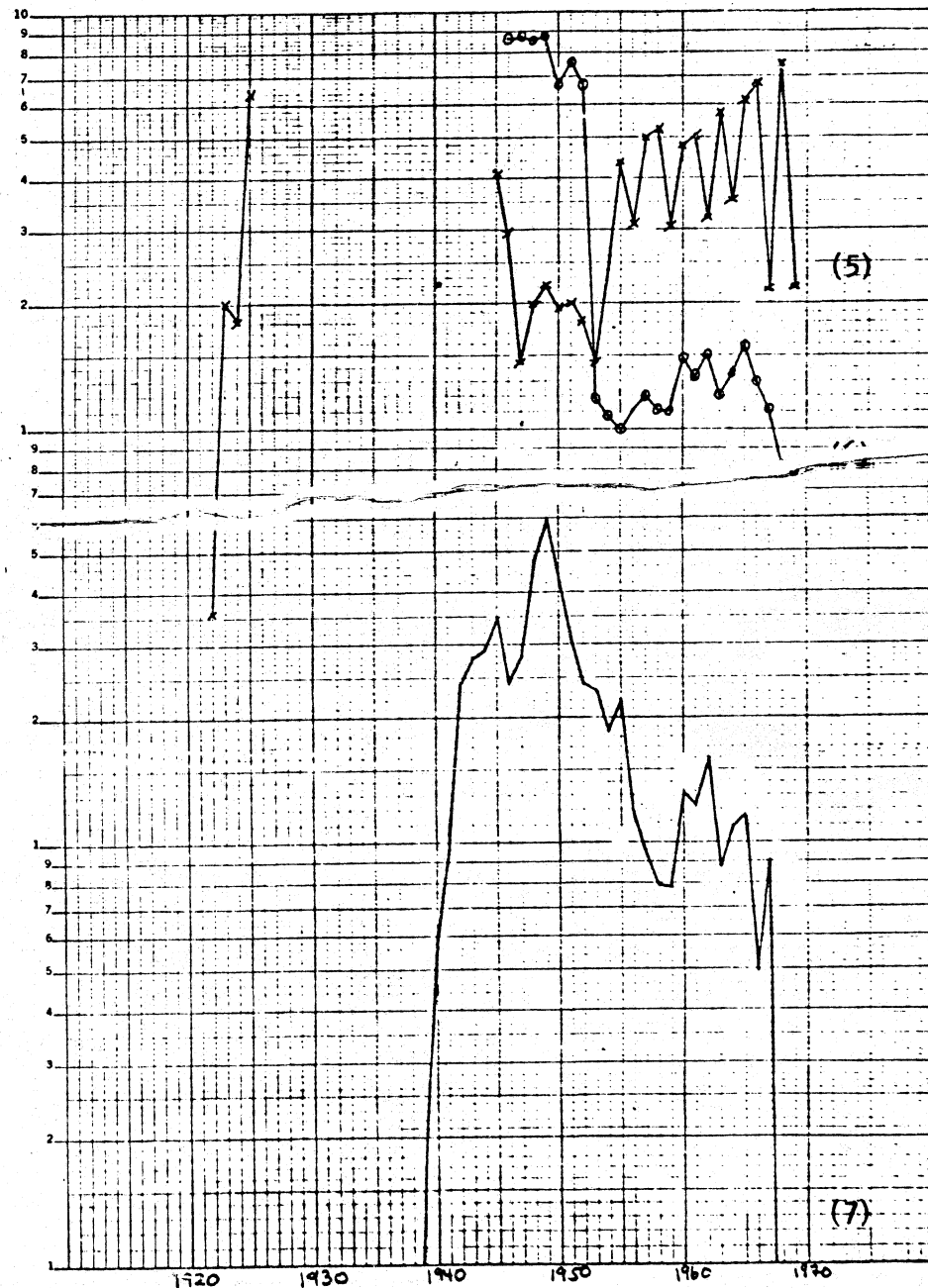
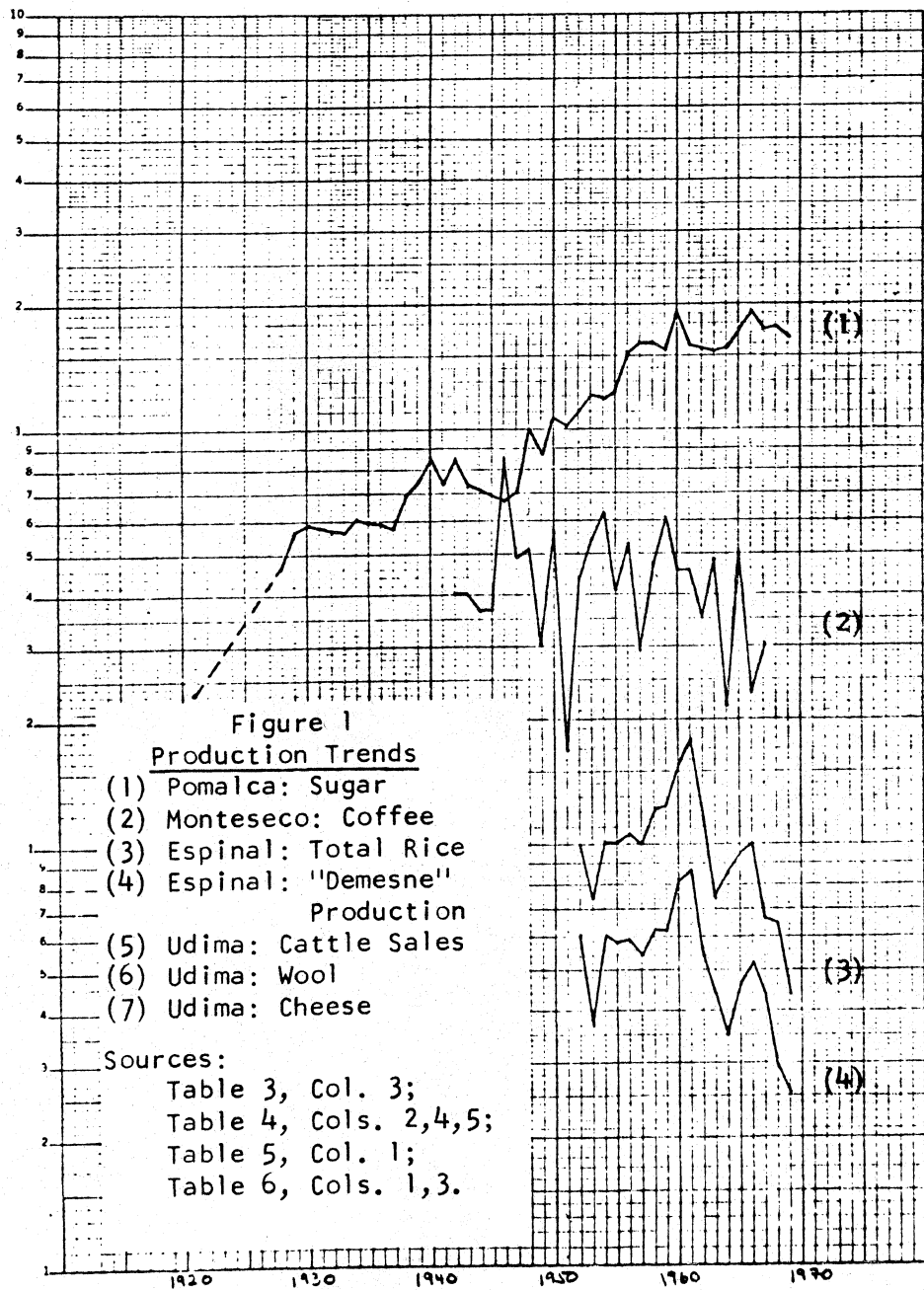
***Area seeded.

Sources: Cols. (1), (2), and (3): 1874: José María Arbulú, "Datos remitidos por el Subprefecto de la Provincia de Chiclayo," *El Peruano* (16, 17, 19 and 20 October 1874); 1909: H. Arbulú, "Critica del cultivo de la caña en una hacienda del Norte del Perú (Tesis, Universidad Nacional Agraria, Lima, 1910); 1921-1969: Estadísticas de Pomalca; 1970-1971: CECOAAP, "Informe anual de operaciones de producción, 1971" (Lima, 1972).

Col. (4): "Informes de contabilidad, Pomalca," various years.

Cols. (5), (6), and (7): Libros de Caja y Planillos, Pomalca. Data are for the month of January of the indicated year.

Col. (8): The formula is: Col. (8) = Col. (7) divided by the cost of living index. Chiclayo's cost of living index is used for the years available--1966-1972. Earlier data correspond to Lima. See ONEC, *Indice de precio al consumidor*, Chiclayo, abril de 1972, *Indice...Lima metropolitana-Callao*, mayo de 1972, and *Anuario estadístico*, various years.



2. Udima

In terms of land area, Udima is the largest hacienda in the department of Cajamarca, and one of the largest in Peru. The total area of the hacienda is unknown. Estimates range up to 100,000 hectares,³⁰ but much of this land is barren and unproductive. The arable and pasture land adjudicated under the agrarian reform of 1969 is 50,000 hectares.³¹ On the north, Udima borders on the Chancay River. On the south the Zaña River forms the boundary. On its western margin Udima reaches the coast, bordering on annexes of Pomalca and Cayalti. The most eastward section of the hacienda is jalca or puna, bordering on lands of the community of San Miguel.

In terms of economic activity Udima is small in comparison with the agro-industrial complexes of the coast and the intensively operated cattle ranches of Central and Southern Peru. Udima's principal products are, and apparently always have been, derived from livestock production (hides, wool, meat, cheese). Crops are tilled and textiles are woven by hacienda residents, but this production is geared to consumption needs in the producing household or in the immediate locality, not to sale on the coast or in other parts of the sierra. The people of Udima work part-time for the hacienda, but most of their work time is dedicated to the cultivation of individual parcels and to the care of their livestock.

We know very little of Udima prior to 1900, but in comparison with the haciendas of the coast, it appears that relatively little change has occurred in the technical and social relations of production in this highland estate over the last century.

In a brief account published in 1902, Victor Marie stated that Udima (including pastureland in Espinal) maintained approximately 11,000 head of cattle, and a human population of 1,500.³² A substantial, but undetermined part of the cattle pertained to the hacendado, Miguel Iglesias. Arrendatarios and obligacioneros cultivated parcels and grazed cattle, the former paying rent in kind, the latter in kind and labor.

The main task of the hacienda's obligacioneros was to participate in the month-long annual rodeo, in which the cattle of the patrón, his obligacioneros, and tenants were driven out of the forest into cleared areas and corrals, for counting, marking, and the determination of rental

³⁰Colin Dellavaud, Les Régions Côtières.

³¹This figure includes Montesecco and Espinal.

³²Victor Marie, "Memoria sobre la agricultura y la economía rural de los valles de Chira, Puirá, Lambayeque, Saña, Jequetepeque, Chicama, Sta. Catalina, Virú, y Chao," in G. Vanderghem, et al., Memorias presentadas al Ministerio de Fomento del Perú sobre diversos viajes emprendidos en varios regiones de la República (Lima, 1902), pp. 43-45.

charges (pastaje).³³ In other parts of the year, the obligacioneros worked a few days maintaining bridges, trails, and other constructions, and clearing small areas for the cultivation of the hacienda's pastures and crops. Then, even more than now, the bulk of the residents' work time was spent tilling their own crops and tending their own cattle (see labor data in Table 4, at the end of this section).

The principal products of the hacienda were livestock, sold on the hoof in Pacasmayo, and butter, sold in Chiclayo and Lima. From January to July of each year some 700 of the hacendado's cows were milked, and butter was produced for sale on the coast.³⁴ Cattle to be sold from Udimá were driven on foot to Pacasmayo. In a monograph written in 1907 José Otero noted that most of the cattle shipped by sea from Pacasmayo came from Udimá.³⁵

Although, by present standards, Udimá was operated extensively and with primitive techniques, according to Marie the owner was active and progressive in administering the hacienda:

The owner is actively engaged in improving his haciendas, building roads and walls, seeding pastures which will serve as reserves in dry months, and maintaining fields of alfalfa.... We have noted in Espinal experimental plots of exotic pastures ("la grama Parada y de la del Caucasio").³⁶

The first comprehensive study of Udimá was written in 1927 as a thesis for the National Agrarian University.³⁷ The author, Mario Cabellos, was authorized to do this study by the Piedra family, which had acquired Udimá in 1920 but had not yet made significant investments in the estate. Cabellos reviewed the performance of Udimá over the period 1922-1927, concluding that fundamental administrative and technical changes were needed to make operation of the hacienda profitable.

In Cabello's detailed account, Udimá was characterized as an extensive and potentially productive hacienda sadly undercapitalized and underexploited, operating under an anachronistic administrative system inherited

³³Mario Cabello, "Informe sobre las actuales condiciones de la 'Hacienda Udimá'" (Thesis, Universidad Nacional Agraria, Lima, 1927, Part 1, Chapter 6 and 14; Part 4, Chapter 6); and Interview: Pedro Ramos (Monteseco) 31 October 1971.

³⁴Marie, "Memoria sobre la agricultura," pp. 43-45.

³⁵José G. Otero, "Informe relativo a la Provincia de Pacasmayo," Boletín del Ministerio de Fomento 2 (December 1904): 31.

³⁶Marie, "Memoria sobre la agricultura," pp. 44-45.

³⁷Cabello, "Informe sobre las actuales condiciones."

from the previous owners. In summarizing his economic analysis, Cabello stated:

The climate is moderate and in general favorable for cattle production. The cattle are in relatively good condition, but you could say that they are not exploited; they live by their own means in a primitive state. A production system per se is practically non-existent....The present financial state of the hacienda is frankly poor.... Annual net losses run around 9,600 peruvian pounds per year.³⁸

Cabello's most important recommendations were the following:³⁹

1. Improve the hacienda's administration.
 - a. Hire a technically competent administrator.
 - b. Improve living and working conditions afforded hacienda employees.
 - c. Implement adequate planning and accounting systems.
2. Improve transportation and communications.
 - a. Construct a road to Espinal.
 - b. Install a telephone system internal to Udimá, and another connecting Udimá to Pomalca.
3. Intensify livestock production.
 - a. Introduce sheep in the puna region.
 - b. Irrigate pastureland on the coast (Espinal).
 - c. Construct canals in the sierra for irrigation of pasture and watering of livestock.
 - d. Install dipping tanks for parasite control in Espinal and in the sierra.
 - e. Construct 40 kilometers of fences.
 - f. Purchase breeding stock.
 - g. Build and operate a cheese factory.

³⁸Ibid., pp. 152, 153.

³⁹Ibid., Conclusiones.

4. Intensify cropping.
 - a. Seed 5,000 hectares of wheat.
 - b. Install a flour mill.
5. Extract native timber from the forest of Montesecco for construction in Udima and on the coast.

Upon completing his university training, Cabellos was hired by VPH to administer Udima. As administrator, Cabello fostered centralization and "rationalization" of production in Udima. He implemented an ingenious system whereby the hacienda's obligacioneros were offered year-end bonuses (premios) for good work, but were made responsible for unaccountable losses of hacienda livestock. Large renters of pasture from Santa Cruz were gradually squeezed out of the hacienda as fences were built and increasingly higher charges were levied for pastaje. Important investments were made in irrigation and pasture improvement.

Administrative papers from Udima indicate, however, that significant improvements in production and profitability did not follow these investments and administrative changes. Don Augusto de la Piedra demanded to know on repeated occasions, "Why, after such important investments in irrigation and fencing, cannot Udima increase production?" The answers of Cabello and his predecessors have varied in emphasis, but usually touch upon two interrelated factors: climate and pastures.

In the preceding section we noted the special geographical and technological conditions which provide coastal farmers with a high degree of control over agricultural production processes. In Udima irregularity of terrain and climate frustrates irrigation and mechanization, and makes production quite vulnerable to the whims of nature. From January to May rains are torrential, and dense fog makes travel hazardous and vigilance of cattle nearly impossible. In this period the pastures of Ayacos grow to more than a meter in height. From July to December sun and wind dry the pasture, and by year's end the weakest cattle begin to die of thirst and starvation.

Not only is the seasonality of climate pronounced, the cycle is extremely unstable from year to year. Periodic droughts cause massive losses of livestock, regardless of investments in irrigation canals, fencing, pastures, and breeding stock.⁴⁰ Early rains destroy wheat crops irrespective of the technical capacity of the hacienda administration. Rotting wheat can be neither sold nor milled, regardless of the investment in processing and transport equipment. During the rainy season, when pastures are most abundant, the road from Udima to the coast is impassible. In years of unseasonably heavy rains the road washes out

⁴⁰ As a result of prolonged drought, 538 head of cattle died in 1968, despite unusually high sales (see Table 4 and Figure 1).

and cannot be repaired for several months.⁴¹ Under these circumstances the transport of cheeses to the coast is not only costly but extremely risky.

During the late 1920s and the 1930s funds were scarce, and investment in Montesecco's coffee plantation promised far greater returns than did investment in Udima. Consequently, the progressive program of Mario Cabello was not implemented in its entirety for over a decade.

In 1937, VPH was on solid financial footing and could afford to initiate the heavy investments required to convert Udima from an extensively grazed unprofitable hacienda where production and life itself were subject to the whims of nature, into a rationally and intensively operated business exporting grain and flour, dairy products, and livestock. An aggressive technician with several years experience in the progressive cattle ranch "Ganadería del Centro," was hired, labor contracts were signed with enganchadores in San Miguel, and wage labor became important for the first time in Udima. The enganchadores opened tambos (general stores) in the hacienda, primarily to service their own peones, but also attracting hacienda residents into the cash economy. Alfalfa and white clover were seeded, fences and canals were constructed, and, most importantly, a road to Montesecco was completed. Hydroelectric plants were constructed in both Udima and Montesecco, and planks were exported to the coast. Several stables and two cheese factories were constructed (one near the Casa Hacienda, the other in Ayacos). Holstein cattle were purchased and a specialist in cheese manufacturing was hired. A flour mill was installed, and the hacienda expanded its cultivation of wheat and barley. The sheep population was increased to over 10,000. Irrigated coastal lands in Espinal were taken out of rice and seeded to alfalfa and other pastures. Dairy cows were milked in two stables built in Espinal and Pan de Azucar, and their milk was curdled and transported to Udima for conversion into cheese. As can be seen from Table 4 and Figure 1, wool and especially cheese production expanded dramatically in this period. Cattle sales dropped.

The shift from cattle grazing to wool, cheese, and timber production involved not only intensification of production, but, more significantly, technical change. Purebred cattle replaced the common cattle of the hacienda. Fences were constructed and a new system of pasture rotation replaced primitive open grazing. Stables and dairies were erected and dairy products were produced for the first time. Truck transport began to replace mule packs. Hydroelectric plants were installed which powered both the sawmill and generators for electric lights.

⁴¹This road was carved on the side of a cliff separating Montesecco from the sierra. Construction was difficult and maintenance is frustrated by the winter rains and landslides. The road was opened in 1941. It is usually impassible for a month or two each year. In 1972 much of it was destroyed and remained closed for several months.

These investments and new economic activities required aggressive and competent administration and a more centralized organization of production, since the technical competence, financial capacity, and scale of operation required for rapid capitalization and technical change were not possessed by the individual campesinos of Udima. Thus, in this period an entirely new, and greatly expanded administrative structure evolved.

We have no information on the operation of the hacienda in the 19th century, but we know from interviews with the oldest residents of Udima that in the first two decades of the 20th century Udima did not function as an integrated operational unit. Instead, the members of the Iglesias family occupied at least four Casas Hacienda in relatively independent zones within the boundaries of the larger hacienda. Miguel Iglesias lived in Espinal, Abel Iglesias occupied the principal Casa Hacienda in Udima, Nicolas and Guillermo controlled Marampampa, a sister Soila lived in Cascadén. Pan de Azucar was rented to a prominent coastal agricultur-
alist, Miguel Leguía. Cattlemen from Santa Cruz rented much of Ayacos. Each zone had its residents, who worked a few days each year as obligacioneros, cultivating the crops and tending the cattle of the patrón. Each work day the obligacioneros were given a ration--"potatoes, wheat, barley,...whatever there was." No one, not even the comisarios (internal police), mayordomos, or tranqueros (gate keepers), were paid in cash. Instead, they were allowed the use of hacienda cattle for plowing and the use of obligacioneros for their own cultivation and other labor needs.⁴² Outsiders were allowed on the hacienda only with the permission of the patrón. Comisarios and tranqueros were armed and trustworthy. Thefts and losses were minimal. "People here were like children of the patrón. There were no problems."⁴³ When the owners returned from travel outside the hacienda, they brought gifts such as textiles, candles, and sweets for their most valued campesinos.

In the 1920s, VPH introduced salaried administrators, and an accounting system designed for absentee control and administration of an increasingly complex business.⁴⁴

Until the 1930s the administrative organization of Udima remained relatively simple. The administrator and accountant came from outside the hacienda. Mayordomos, comisarios, and other "responsible people" were selected from among the hacienda population, and performed much the same function as in the Iglesias' administration. Gradually, the various zones of the hacienda were integrated into a single administrative unit, and cash payments were instituted for certain full-time workers who became known as empleados (employees). Rental contracts with the

⁴²For tending cattle, mending fences, carrying water and firewood, hauling cargo, etc.

⁴³Interview: Pedro Ramos (Monteseo) 31 October 1971.

⁴⁴The hacendado, Don Augusto de la Piedra, visited Udima two times each year, spending no more than six weeks in the hacienda annually.

Cruzeños and others lapsed, and the administration expelled cattle of the obligacioneros from the best pastures by fencing them. The obligacioneros of the four principal zones of Udimá became known as separate pachacas; each pachaca had an obligation to work two weeks out of each month for the hacienda (an obligation never met: see Table 4). Gradually the pachaqueros began receiving cash wages.

Despite the changes in administration, remuneration, and the relative weight of hacienda ("demesne") production in the total, the basic organization of production--with heavy reliance on the extraction of rent from colonos--changed little. In the 1940s, however, the shift to wool, cheese, and timber production was accompanied by more fundamental changes in the technological and social relations of production. One requirement of the shift was a massive increase in labor of construction of the road, canals, fences, and dairy facilities. Alfonso Novoa, the new administrator, recommended the suppression of the obligación and pachaca systems and the imposition of full-time wage labor. Under the proposed system, hacienda residents would liquidate their cattle and work full time for the hacienda.⁴⁵ We do not know if a serious attempt was made to implement this recommendation, nor do we know the reaction of the Udimeños to it; but the pachaca system was never successfully replaced by wage labor. Instead, as on the coast, enganche brought in transient labor from outside the hacienda.

In addition to the peones enganchados, a number of carefully selected young men were brought from San Miguel to staff the expanding hacienda office and administrative staff. Novoa, himself a specialist in sheep ranching, hired his brother to manage the cheese factory. Electricians, mechanics, and boiler workers came from Pomalca to assemble tractors, the electrical plant, the saw and flour mills, and the equipment of the cheese factory.

From this time (beginning in 1937) until very recently, the administrative and technical personnel of Udimá has come from outside the hacienda. The following remarks were made to me by employees of Udimá:

The people of Udimá never wanted to work...The working people come from the villages, from outside the hacienda...The people here are lazy. They are content with their life.... They have their mode of life and they do not aspire to anything better.⁴⁶

The people of the hacienda would rather sit in their house, eating their wheat and their boiled corn, than work in the hacienda.⁴⁷

⁴⁵ Novoa submitted a proposal to the administration of VPH. This matter will be dealt with fully in my dissertation.

⁴⁶ Interview: Humberto Quiroz (Chiclayo) 28 September 1971.

⁴⁷ Interview: [?] Bocanegra (Chiclayo) 22 October 1971.

The hacienda employees came from outside the hacienda. None of the young people of the hacienda has ever resulted to anything; recently a few have made a way for themselves, but before none of them did.⁴⁸

Table 4 presents statistics on Udima's production, employment, and profitability since 1900. These data reflect a process of business growth and consolidation until about 1950, followed by stagnation and decline. In the last decade the dairy and lumber operations have been abandoned. The number of sheep has continually dropped since the mid-1940s. The stock of cattle fluctuates around a constant or falling number. Wage labor has gradually been abandoned. Since 1964, the hacienda has produced net losses.

Historically, markets for Udima's principal products--wheat, cheese, lumber, meat, and wool--have been good. The first three products are traditional Peruvian imports, the fourth a staple commodity. Wool suffers from the weakest market of all, but the progressive corporately owned sheep ranches of the Central Highlands (Cerro de Pasco and Ganadería del Centro) have made considerable profits. However, product markets are but one of a number of variables which influence the organization and profitability of latifundist agriculture. The relevant variables may be grouped under three broad headings:

- (1) Geography: soils, topography, climate, etc.
- (2) Technology: especially yield-increasing and labor-saving methods
- (3) Socio-cultural Factors
 - a. economic infrastructure: transport, credit, markets, processing, etc.
 - b. social conditions: literacy and technical capacity of the peasantry, demographic pressure, unionization, etc.
 - c. social and agrarian legislation

The profitable maintenance of transport, communications, and irrigation infrastructure and a technically competent administrative staff requires a minimal volume of operation. Thus, for large-scale, capitalistic production to be more profitable than extraction of rent from colonos, there must be a significant differential in volume, costs, and/or product quality (i.e., economies of scale) in favor of the former. In the case of Udima, after a decade and a half of administrative reorganization and intensification of centralized production, the constellation of perverse natural conditions (inherently poor soils and extreme variability of weather, inability to irrigate, difficulty of transport and communications), technological problems, market conditions, and social and agrarian legislation

⁴⁸ Interview: Cesar Barrantes (Reque) 21 October 1971.

discouraged further investment and led to eventual decapitalization of the estate. Funds invested in the consolidation and maintenance of capitalistic production in Udimá reaped lower (or negative) returns than could be expected in Pomalca or other sections of VPH. The following statements by VPH administrators illustrate these points:

1. Franko Klinge: administrator of Pomalca in the 1930s, and brother-in-law of Ricardo de la Piedra C.:

Udimá never has responded; many experts traveled to the hacienda and submitted their reports, but the majority were negative. And the optimistic reports and recommendations haven't resulted in profits for the firm either.⁴⁹

2. Federico Mevius: general manager of VPH:

The irregularity of the terrain and rainfall is the principal problem there...Irregularity ruins any calculation of yield or profitability..."Normal conditions" practically do not exist in that zone...Intensive cultivation is impossible, and therefore cattle grazing has always been the principal activity...We invested quite significant quantities of money and time in that fundo, but never did we reap an adequate return. The most important branch of the business has always been "rental of pastures." Therefore, we never changed the system, but rather improved it--made it yield more... In the long run Udimá never has been a going concern for us.⁵⁰

3. Ricardo de la Piedra K.: an owner and the general manager of the haciendas until the intervention, 1969:

Udimá never had produced well; natural conditions are very difficult there.⁵¹ We never earned much money with that hacienda, but neither did we lose much; it was very insignificant compared to Pomalca...Udimá was poorly administered because really it was not worthwhile going there often. We always distributed our time according to the importance of each activity, in other words, in accordance with the economic possibilities that we confronted. While there were great possibilities for profits on the coast, in Udimá there were no such possibilities...For example, to irrigate sixty hectares in the sierra costs a great deal of money

⁴⁹ Interview: Franko Klinge (Miraflores, Lima) 2 June 1972.

⁵⁰ Interview: Federico Mevius (Lima) 29 May 1972.

⁵¹ Interview: Ricardo de la Piedra K. (Lima) 11 October 1971.

and time, and for what? Even with water the productivity of the soil there is poor.⁵²

In his "Informe de contabilidad, 1957," the chief accountant for VPH, who was also in charge of making annual tours of inspection to Udima and evaluating year-end financial statements, recommended the following:

1. Intensification of traditional production on the hacienda using the "partidario" or "colono" system.
2. Elimination of activities which do not produce good earnings.
3. Employment of Udima's extra labor in Monteseco.⁵³

In his "Informe de contabilidad, 1964," the accountant stated:

With the establishment of minimum wages in the Department of Cajamarca, it will be difficult to earn profits in the cattle business under the methods presently used.⁵⁴

With respect to cheese production:

We have exerted great efforts over years and years without earning even a modest, predictable profit. Never have we been able to approach a net profit of 100,000 soles, not even in the period of large-scale milk production in Espinal and Pan de Azucar.⁵⁵

Concerning the agrarian reform and colonato:

The Agrarian Reform Law will soon be approved, and will certainly affect Udima. Therefore, we should plan to dedicate all our attention, in the years in which the firm can still do so, to extracting the maximum possible surplus from the "coloniaje" and from the hacienda's cattle....We should eliminate the stables and the cheese factory, the alfalfa fields, land reclamation projects, etc., the purchases of feed concentrates and all the other activities which force the hacienda to spend money which is never transformed into profits....[We must] develop and take advantage of the activities which produce earnings and leave by the wayside those which result in losses.⁵⁶

⁵²Interview: Ricardo de la Piedra K. (Lima) 16 June 1972.

⁵³"Informe de contabilidad, 1957," p. 25.

⁵⁴"Informe de contabilidad, 1964," p. 20.

⁵⁵Ibid., p. 29. According to a note in the text, this quotation was reproduced by the report's author from his year-end report for 1963, "Informe de contabilidad, 1963."

⁵⁶"Informe, 1964," pp. 29-30. Also reproduced from the "Informe, 1963."

Table 4. Udimá. Data on Production, Profits, Labor Force, and Wages, 1902-1970

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) |
|------|------------------|-------|----------------|----------------------|------------------------|------------------------------------|---|--|--|------------|----------------------------------|---------------------------------------|------------------------------|--------------------|-------------------|-------------|
| | Economic Results | | | | | | | | | | | | | | | |
| | Cattle | | Sheep | | Cheese Produced (kgs.) | Wood Cut (thousands of board feet) | Animals of Colonos and Renters (Cattle Sheep) | Profit from Rental of Pastures (in thousands of soles) | Profit or Loss from Other Activities (in thousands of soles) | Net Result | Average | Total | Percent in the "Enganchados" | Daily Wage at 1969 | Daily Wage Prices | |
| | Year-end Stock | Sales | Year-end Stock | Wool Produced (lbs.) | | | | | | | Number of Days Worked Per Worker | Number of Days Worked in the Hacienda | | | | |
| 1902 | 3,000* | | | | | | 8,000* | | | | | | | | | 0 |
| 1925 | 4,015 | 644** | | | | | 4,985 | | | | | | | | | 0 |
| 1935 | 4,975*** | | 2,133*** | | 140*** | | 4,235 | 1,841 | | | | 23 | 11,038 | 9 | 0.75 | 20.27 |
| 1940 | 5,174 | | 7,813 | | 5,701 | | | | | | | 44 | 55,190 | 46 | 1.10 | 24.44 |
| 1945 | 3,804 | 410 | 11,919**** | 18,740**** | 35,048 | | 1,770 | 1,250 | | | | 35 | 36,878 | 45 | | |
| 1950 | 3,425 | 194 | 8,555 | 16,706 | 42,974 | 244 | 3,188 | 1,868 | 14.4 | 96.2 | 110.6 | 158 | 102,367 | 29 | 1.80 | 9.94 |
| 1955 | 3,511 | 437 | 5,259 | 9,951 | 22,009 | 156 | 2,870 | 1,506 | 21.4 | 423.1 | 504.5 | 125 | 60,219 | 0 | 2.10 | 8.20 |
| 1960 | 3,631 | 481 | 5,341 | 14,804 | 13,229 | 109 | 3,133 | 1,854 | 435.6 | 1,056.8 | 1,493.4 | 112 | 63,247 | 0 | 2.10 | 5.48 |
| 1965 | 3,828 | 615 | 4,782 | 15,855 | 11,631 | 89 | 2,399 | 1,773 | 252.8 | 86.8 | 339.6 | 129 | 62,926 | 0 | 4.60 | 7.84 |
| 1966 | 3,604 | 674 | 3,494 | 12,981 | 5,004 | 134 | 2,225 | 1,824 | 328.8 | - 118.8 | 210.0 | | 52,832 | 0 | 5.60 | 8.76 |
| 1967 | 3,999 | 217 | 3,992 | 11,178 | 9,122 | 110 | 2,671 | 2,400 | 499.6 | -1,052.3 | - 552.7 | | 44,673 | 0 | 5.60 | 7.99 |
| 1968 | 3,311 | 747 | 2,314 | 8,187 | 0 | 78 | 2,671 | 2,726 | 670.0 | -1,052.7 | - 382.7 | 83 | 33,786 | 0 | 11.13 | 12.79 |
| 1969 | 3,448 | 231 | 3,048 | 7,904 | 0 | 58 | 2,345 | 2,158 | 369.4 | -2,522.4 | -2,153.0 | 86 | 41,094 | 0 | 11.13 | 11.13 |
| 1970 | | | | | | | | | | | | | | | | 21.00 19.85 |

*Estimate of the author, based on data from the report of Victor Marie (see footnote 32, Part III *infra*) and from an interview with Pedro Ramos (Monteseco) 31 October 1971.

**Calculated from the thesis of Mario Cabello (see footnote 33, Part III *infra*). The figure corresponds to 1927. It seems likely that this was an unusual year; the usual number of sales seems to have been 200-300 per year.

***Data from 1937.

****Data from 1946.

Sources: Cols. (1) - (11): Sociedad Pomalca Viuda de Piedra S.A., "Balance general al 31 de diciembre de 1969; A) Sección Udimá, B) Sección Espinal/Pan de Azúcar; Informe de contabilidad" (Lima, 1970).
 Cols. (12) - (15): Pay sheets, account books, and labor records in the archives of Udimá.
 Col. (16): See the source for Col. (8) of Table 3.

Table 4. Udimá. Data on Production, Profits, Labor Force, and Wages, 1902-1970

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) |
|------|----------------|-------|----------------|----------------------|------------------------|------------------------------|--------------------------------|--------|--|--|------------|--|---|-----------------------|-----------------|-------------------|
| | Cattle | | Sheep | | Cheese Produced (kgs.) | Wood Cut (thousands of feet) | Animals of Colonos and Renters | | Profit from Rental of Pastures (in thousands of soles) | Profit or Loss from Other Activities (in thousands of soles) | Net Result | Average Number of Days Worked Per Worker | Total Number of Days Worked in the Hacienda | Percent "Enganchados" | Daily Cash Wage | Daily Wage Prices |
| | Year-end Stock | Sales | Year-end Stock | Wool Produced (lbs.) | | | Cattle | Sheep | | | | | | | | |
| 1902 | 3,000* | | | | | | | 8,000* | | | | | | | | 0 |
| 1925 | 4,015 | 644** | | | | | | 4,985 | | | | | | | | 0 |
| 1935 | 4,975*** | | 2,133**** | | | | | 4,235 | 1,841 | | | 23 | 11,038 | 9 | 0.75 | 20.27 |
| 1940 | 5,174 | | 7,813 | | 5,701 | | | | | | | 44 | 55,190 | 46 | 1.10 | 24.44 |
| 1945 | 3,804 | 410 | 11,919**** | 18,740**** | 35,048 | | 1,770 | 1,250 | | | | 35 | 36,878 | 45 | | |
| 1950 | 3,425 | 194 | 8,555 | 16,706 | 42,974 | 244 | 3,188 | 1,868 | 14.4 | 96.2 | 110.6 | 158 | 102,367 | 29 | 1.80 | 9.94 |
| 1955 | 3,511 | 437 | 9,951 | 22,009 | 22,009 | 156 | 2,870 | 1,506 | 31.4 | 423.1 | 504.5 | 125 | 60,219 | 0 | 2.10 | 8.20 |
| 1960 | 3,631 | 481 | 5,341 | 14,804 | 13,229 | 109 | 3,133 | 1,854 | 435.6 | 1,056.8 | 1,493.4 | 112 | 63,247 | 0 | 2.10 | 5.48 |
| 1965 | 3,828 | 615 | 4,782 | 15,855 | 11,631 | 89 | 2,399 | 1,773 | 252.8 | 86.8 | 339.6 | 129 | 62,926 | 0 | 4.60 | 7.84 |
| 1966 | 3,604 | 674 | 3,494 | 12,981 | 5,004 | 134 | 2,225 | 1,824 | 328.8 | - 118.8 | 210.0 | | 52,832 | 0 | 5.60 | 8.76 |
| 1967 | 3,999 | 217 | 3,992 | 11,178 | 9,122 | 110 | 2,671 | 2,400 | 499.6 | -1,052.3 | - 552.7 | | 44,673 | 0 | 5.60 | 7.99 |
| 1968 | 3,311 | 747 | 2,314 | 8,187 | 0 | 78 | 2,671 | 2,726 | 670.0 | -1,052.7 | - 382.7 | 83 | 33,786 | 0 | 11.13 | 12.79 |
| 1969 | 3,448 | 231 | 3,048 | 7,904 | 0 | 58 | 2,345 | 2,158 | 369.4 | -2,522.1 | -2,153.0 | 86 | 41,094 | 0 | 11.13 | 11.13 |
| 1970 | | | | | | | | | | | | | | | | 21.00 19.85 |

*Estimate of the author, based on data from the report of Victor Marie (see footnote 32, Part III *infra*) and from an interview with Pedro Ramos (Monteseo) 31 October 1971.

**Calculated from the thesis of Mario Cabello (see footnote 33, Part III *infra*). The figure corresponds to 1927. It seems likely that this was an unusual year; the usual number of sales seems to have been 200-300 per year.

***Data from 1937.

****Data from 1946.

Sources: Cols. (1) - (11): Sociedad Pomaña Viuda de Piedra S.A., "Balance general al 31 de diciembre de 1969; A) Sección Udimá, B) Sección Espinal/Pan de Azúcar; Informe de contabilidad" (Lima, 1970).
 Cols. (12) - (15): Pay sheets, account books, and labor records in the archives of Udimá.
 Col. (16): See the source for Col. (8) of Table 3.

3. Monteseco

The area which is today incongruously named "Monteseco" is a geographical oddity--a humid, forested zone on the western slopes of the Andes. This region was never exploited by the Iglesias family. The forest was so thick and the land's topography so rugged that neither men nor cattle ventured into the heart of it. The entire region along the upper reaches of the Zaña River was very scarcely populated until well into the twentieth century, and isolated from population centers in both the coast and the sierra. Malaria and numerous gastro-intestinal ailments which came under control only in the 1950s made this area one of the least amenable to human occupation on Peru's north coast.

In the late 1920s a pioneer from the Peruvian selva, José Costaguta, was contracted by VPH to establish a coffee plantation in Monteseco.. Costaguta was to clear the forest, plant and cultivate coffee, and turn the plantation over to VPH when it came into production. Before this cycle was completed, however, the contract was modified and Costaguta became VPH's salaried administrator in the Hacienda Monteseco.

At the outset, neither labor nor capital existed in the zone. The first tasks were to attract laborers and erect a base camp. Parcels were offered to mejoreros who agreed to clear land, plant coffee, and till it for four years. When the plantation was ready to bear fruit, the mejoreros settled accounts with the hacienda administration and moved on to new plots of virgin forest. Day laborers were brought from a number of highland communities by enganchadores.

A hydroelectric plant was installed; timber was ripped into planks; and primitive housing, the hacienda office, and an installation for de-pulping and drying coffee were constructed. A road was built from Espinal to the hacienda buildings,⁵⁷ and lumber was shipped to the coast for construction on Pomalca and in the port of Pimentel.⁵⁸

VPH began the exportation of high quality coffee to the United States in the early 1930s. From that date, Monteseco has remained the only large-scale producer of coffee on the western slopes of the Peruvian Andes.

The growth and prosperity of Monteseco attracted many settlers to the south bank of the Zaña River. Many came as laborers for the hacienda, learned to cultivate coffee, carried seed to the south bank, and established themselves as smallholders.

⁵⁷ A road from Cayaltí, through Espinal, towards the sierra town of Niepos (south bank of the Zaña River) was constructed during the oncenio of Leguía.

⁵⁸ The lumber of Udima was not of commercial quality or quantity, and was used in the rough constructions on the haciendas and in the port. The lumber sold by VPH in the Casa Piedra came from Pucallpa (cedar) and from the Pacific coast of North America (pine).

A significant part of Montesecco's coffee was seeded by mejoreros, but the hacienda has never employed sharecroppers or colonos as coffee producers. Two principal factors are responsible for this: the difficulty of establishing a stable, resident population, and the perennial nature of the coffee plant.

To this day Montesecco is an unhealthy, unpleasant place, and the conditions of work and pay have not attracted a stable population adequate for the labor requirements of cultivation. The administration of Montesecco attempted to settle laboring families in the hacienda, but without much success. An ex-administrator remarked to me: "Only the worst class of people stayed in Montesecco. Thieves, highwaymen, men running from the police were the types who stayed here--to hide from the law."⁵⁹ In recent years a process of net outmigration has occurred. Outmigration has been a selective process, with some of the most capable workers leaving Montesecco for Chiclayo, or for colonization in the Peruvian selva.⁶⁰

Poor cultural practices (by acts of commission or omission) can affect coffee productivity for several years. Moreover, the first signs of inadequate cultivation may not appear for one or more years. Thus, assuming a colono system with a high rate of turnover, each incoming colono's harvests are a function of both his own cultivation and that of his predecessors. Thus, the causal link between performance and payment--necessary for the adequate functioning of any system of piece-work or share-production--is broken. The erratic, almost random, variation in coffee production (see Figure 1 and Table 5) is another barrier to use of the colono system under conditions of high labor mobility. The routine nature of tasks and small geographical area of the hacienda are factors favoring use of gang labor.

Until the 1960s, Montesecco exported coffee at ~~more-than-adequate~~ rates of return. But in the last decade changing natural and social conditions have combined to bankrupt the hacienda. As mentioned above the coffee plant is a perennial. Commercial production begins at the fourth year, and can continue for 10, 20, or even 30 years, depending upon natural conditions and cultivation. At some point, however, the plantation must be renovated if physical productivity is to be maintained or improved. In Montesecco renovation of the plantation has been costly and largely unsuccessful. Deforestation may have resulted in an excessive reduction

⁵⁹ Interview: Elar Peñarrieta (Montesecco) 20 December 1970.

⁶⁰ Interviews: Jesús Fernandez (Victoria Nueva, Chiclayo) 6 December 1971; Ing. [?] Collasos (Montesecco) 26 October 1971; Pedro Suarez (Montesecco) 31 October 1971.

of shade,⁶¹ and has clearly led to catastrophic sheet and gully erosion. According to both residents of the zone and the administration in Lima, the climate has changed markedly as a consequence of deforestation. Rainfall has declined as has the average relative humidity of the zone.⁶² To combat declining rainfall a complex network of irrigation canals has been constructed.⁶³ In Montesecco's hilly terrain, irrigation is both costly and imperfect; spillage has contributed to erosion. Irrigation by aspersion was attempted, but proved uneconomical.

Erosion has exposed the subsoil in many areas, making hand cultivation both difficult and costly. This and the implementation of minimum-wage and social legislation has led to the gradual shift from shovel-weeding (digging weeds out) to machete-weeding (cutting weeds off). The cost of planting new seedlings has risen and the probability of their survival has dropped. Fertilization has become essential for the maintenance of productivity.

In recent years the international market for Montesecco's coffee has been weak. The inevitable result of rising costs, declining physical productivity, and a weak market is bankruptcy.

⁶¹The degree to which coffee shrubs require the shade of larger trees is not altogether clear. For years chirimoyos provided both shade for the coffee plants and fruit for the residents of Montesecco. But the chirimoyo harbors a worm which attacks coffee as well. In the 1950s and 1960s the chirimoyos were cut by the administration. Other shade trees were planted and the coffee plantation was thickened to promote self-shading, but the results have been poor. Today there is a pronounced lack of shade, and the plantation's productivity suffers as a result.

⁶²We have not recorded quantitative data to substantiate these observations. However, interviews and hacienda papers provide consistent accounts of abundant rains in the 1930s and 1940s. In the last two decades the plantation has suffered increasingly from lack of moisture.

⁶³Business correspondence indicates that canal construction resulted in an investigation by irrigation authorities and an order to limit use of water from the Zaña River.

Table 5. Montesecco. Data on Production, Profits, Labor Force, and Wages, 1940-1971

| | (1) | (2) | (3) | (4) | (5) | (6) |
|------|---------------------------------|---|------------------------|-----------------------------------|----------------------------------|--|
| | Coffee Production (q.g.)* | Man-days Employed in Cultivation | Percent Enganchados | Profit (thousands of soles) | Daily Cash Wage (in soles) | Cash Wage at 1969 Prices (in soles) |
| 1940 | 40,236 | 68,288 | 39 | | 0.90 | 20.00 |
| 1945 | 32,097 | 105,248 | 33 | | 0.90 | 11.84 |
| 1950 | 57,271 | 77,862 | 43 | 2,806 | 3.40 | 18.78 |
| 1955 | 41,902 | 165,768 | 68 | 2,408 | 6.30 | 24.60 |
| 1960 | 45,890 | 201,639 | 74 | 5,950 | 10.80 | 28.20 |
| 1965 | 50,789 | 129,191 | 51 | 2,021 | 16.40 | 27.94 |
| 1966 | 23,282 | 135,602 | -- | -2,302 | 19.00 | 29.73 |
| 1967 | 30,670 | 136,071 | -- | -2,722 | 20.00 | 28.53 |
| 1968 | | 128,293 | -- | ? | 22.00 | 25.29 |
| 1969 | | 113,467 | -- | ? | 22.50 | 22.50 |
| 1970 | | 77,651 | 35 | ? | 25.00 | 23.63 |
| 1971 | | | 33 | ? | 27.00 | 24.88 |

*One quintal equals 100 lbs.

Sources: Cols. (1) and (4): "Informes de contabilidad, Montesecco," various years.

Cols. (2), (3), (5), and (6): Various account books, Montesecco.

4. Espinal

Although politically all sections of the old hacienda Udima, including Montesecco and Espinal, pertain to the department of Cajamarca, geographically Espinal lies in the coastland of Lambayeque. Espinal's irrigable land is a narrow strip along the Zaña River. At its lowest point Espinal borders on an annex of Cayaltí; upstream it reaches the foothills of the Andes on its border with Montesecco.

According to Victor Marie,⁶⁴ cattle were pastured on the irrigated lands of Espinal in the early years of the twentieth century, but my interviews indicate that the Iglesias family never cleared the forests nor improved a significant portion of the hacienda's lands. Instead, cattle grazed unattended in the thorny forest and brushland which gave the hacienda its name--"El Espinal." During the rainy season (January-May) the cattle moved up out of the forest onto the seasonal pasturelands of the foothills leading to Udima.

In the early 1900s, a tenant, Miguel Leguia, occupied Pan de Azucar, grazing cattle and cultivating small chacras (parcels or plots) of rice. Cattle of Miguel Iglesias grazed in the rest of Espinal, save a few parcels of rice, corn, beans, and sundry fruits and vegetables tilled by inhabitants of the area. The population of Espinal was small, probably no more than ten families resided permanently in the hacienda, cultivating their own chacras, pasturing their livestock, and working as obligacioneros for the patrón.

In the years 1915-20, M. Leguia began contracting peons from Santa Cruz and expanding the cultivation of rice for sale in Cayaltí. The owners followed suit, and began reducing the size of their cattle herd to allow expansion of riceland. Workers willing to settle in the hacienda were offered plots of unimproved land which they cleared and used for producing foodstuffs for household consumption. But, as in most haciendas of the north coast, few families settled permanently. Malaria was particularly dangerous in this zone, and living conditions were extremely primitive.⁶⁵

In the 1930s, following construction of a road connecting Espinal to Chiclayo, campesinos from the upper Chancay valley (Chongoyape to Santa Cruz) began entering the area in search of land for rice production. VPH sent an employee to administer Espinal, contracts were signed with enganchadores in Santa Cruz, obligacioneros were sent from Udima for work on the coast, and permanent settlement was encouraged.

⁶⁴ Marie, "Memoria sobre la agricultura," pp. 43-45.

⁶⁵ Rosario Soto, a mayordomo in Espinal in the 1920s, told me that one family in Pan de Azucar lived over a year with its belongings in a tree, never raising so much as a hut of cane and leaves.

With the development of Montesecco in the 1930s the administrative structure of Udimá and its annexes increased in complexity. A superintendent was hired whose base of operations was Montesecco. Business accounting for the three sections (Udimá, Montesecco, Espinal-Pan de Azúcar) was also centralized in Montesecco. An administrator, with permanent residence in Udimá, was made responsible for both Udimá and Espinal. A mayor-domo was placed in charge of the direct administration of Espinal.

Until the 1940s riceland was gained progressively from the forest. A few settlers tilled rice on individual plots, but most production in Espinal was administered directly ("demesne") and most laborers worked more-or-less steadily for the hacienda. Subsistence plots were tilled, cattle pastured, and "barnyard animals" tended by women, children, and hacienda laborers in their spare time. In the 1940s, VPH attempted to convert Espinal into an intensive dairy farm. This idea apparently came from Gonzalo Novoa, who administered Udimá in this period. Holstein and Brown Swiss cattle were stabled in Espinal and Pan de Azúcar, and fed alfalfa and concentrates.⁶⁶ Cheeses were produced and transported to the sierra for curing. Rice as a cash crop disappeared from the hacienda.

As indicated in the section on Udimá above, the cheese business was anything but lucrative. The milk cows fared poorly in Espinal, being unadapted to the hot climate and parasites of the region. Artificial pastures also did poorly, being overrun by natural herbage and requiring frequent weeding and reseeded. Transporting of cheeses from Espinal to Udimá was costly and risky. In the early 1950s VPH decided to abandon dairy production in Espinal. Gradually the pasture land was brought into rice production, and the cattle were moved from Espinal to Udimá. A futile attempt was made to supplement milk produced in Udimá with powdered milk imported from New Zealand, but finally cheese production was abandoned altogether by VPH. (Udimá's residents continue to make cheeses individually for their own consumption and very limited sale in the coast.)

The expansion of rice in Espinal in the 1950s was accompanied by the adoption of a new labor-tenure regime which in Lambayeque is known as colonato. Under this system, hacienda residents are allotted small parcels of land on which they seed rice. In addition to land and water, administration provides each colono with seed, fertilizer, and cash advances on an account to be settled at harvest time. A fixed rent is charged per unit of land tilled. All the above obligations are settled by the delivery of rice to the hacienda warehouse at harvest time. In addition, the colono must sell all but a subsistence allotment of rice to the hacienda at less-than-market prices and provide labor to the hacienda when demanded at less-than-market wages.

In the 1950s, the workers of Espinal did not receive plots of land as a concession on the part of the hacienda. The colono system was actively instituted by the hacienda administration. We do not know whether

⁶⁶ Alfalfa was cut and carried to the barns for feeding.

the system was adopted primarily to establish a dependable and growing labor force, to bring new lands under cultivation, or to introduce a more efficient production system. Certainly the first two motives apply, and nothing in my interviews or review of administrative correspondence is inconsistent with the third. Rosario Soto, mayordomo of Espinal from 1928 to 1942 and 1950 to 1966, explained to me the introduction of colonato by way of the following story:

Before, nobody lived in this zone and it was really lonely. We lived in such isolation that we looked for people to settle near us. Don Augusto [de la Piedra] requested that each of us bring a friend... When I returned to work in 1950 don Augusto returned from Germany. There he had seen the people living throughout the countryside, and he wanted people to settle in Espinal, too, and farm the land that until that time had been brushland. We made houses for the people that came, and each received a plot of land to clear. Everyone had livestock, too...paying rent for pastureland, of course.⁶⁷

Table 6 (at the end of this section) shows that during the 1950s and 1960s the area cultivated by the hacienda fell, while that of the colonos increased. By the mid-1960s the number of colonos had reached 160; over half the crop delivered by Espinal to the Piedra's rice mill in Chiclayo was produced by colonos.

It is interesting to note that the colonos of Espinal produced the same crop as the hacienda administration--rice. In Saltur, Sipán, and Pampa Grande (the haciendas of the Chancay Valley brought into cane production by VPH) the hacienda produced rice ("demesne production") but the colonos produced corn. Corn and rice are clearly compatible, since: (1) the former can be seeded and harvested in the "slack times" when little labor is needed for rice cultivation; (2) corn requires little water, allowing the hacienda administration to put the annual floodwaters to optimal use on its best lands under rice, passing a trickle of "free water" to the colonos in other times of the year.

Rice, however, is produced by the colonos of Espinal and other haciendas of the upper reaches of both the Chancay and Zaña valleys for two reasons: (1) corn yields less in the shallow soils of the upper valleys; (2) irrigation water is relatively abundant year around, allowing seeding and harvesting of the colonos' and the hacienda's rice to be staggered. Prior to the agrarian reform Espinal's colonos typically cultivated two rice crops per year, the hacienda, one. The logic of colonato in rice production was described to me by Ricardo de la Piedra K. in the following way:

⁶⁷Interview: Rosario Soto (Chiclayo) 29 September 1971.

In order to solve our labor problem and to maximize the production of the hacienda we gave plots of marginal land to colonos. Since we also financed their production we could dictate the following conditions:

1. Seed the varieties that we specified.
2. Seed when we specify.
3. Use irrigation when we specify, and in the fashion we specify.
4. Sell us all the harvest.

We seeded one time each year on the best lands...in that way we assured ourselves one good crop per year-- and the colonos seeded two times each year and worked for the hacienda when we needed their labor. With this system we managed to utilize the available irrigation water rationally, minimize the risks incurred by the hacienda, employ the residents of the hacienda year around, and eliminate the need to contract workers outside the hacienda.⁶⁸

The reason why colonos produced two crops each year and the hacienda only one is indicated in the following statement of Carlos Ramirez, sub-administrator of Espinal at the time of the 1969 agrarian reform:

The hacienda never seeded two times a year because early rains could ruin the harvest. On the other hand, the colonos always managed to take up their harvest...working at night or on holidays, and drying or threshing it in their houses. The hacienda could never do that with hired labor.⁶⁹

For a decade the administration of Espinal expanded the hacienda's irrigation system, cultivated area, and number of colonos. The 1960s, however, brought sharp reversals. First, Cayaltí, allied with other haciendas and communities in the lower valley, challenged Espinal's traditional right to toma libre (unlimited use of river water for irrigation). This challenge was effective, and resulted in an abrupt restriction of irrigation water for both hacienda and colono lands. A much more serious matter, however, was the agrarian reform law of 1964. Encouraged by the law, and sustained by a "supervised credit" program initiated at this time by the Ministry of Agriculture, the colonos of Espinal refused to pay rent or sell rice to the hacienda administration. Production on the hacienda's lands alone could not support the hacienda financially.

⁶⁸ Interview: Ricardo de la Piedra Klinge (Lima) 16 June 1972.

⁶⁹ Interview: Carlos Ramirez (Udima) 3 November 1971.

Table 6. Espinal. Data on Production, Costs, Profit, Labor Force, and Wages, 1943-1962

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
|------|-----------------|---------|--------|-------------------------|----------|---------------|-------|-------------|---------------------|---------|--------|
| | Rice Production | | | Cost of Rice | Man-days | | Daily | Cash Wage | Economic Results | | |
| | Hacienda* | Colonos | Total | Production on Hacienda | of Labor | Percent | Cash | at | Hacienda | Colonos | Total |
| | (in fanegas**) | | | Lands (Sección Espinal) | Employed | "Enganchados" | Wage | 1969 Prices | (millions of soles) | | |
| | | | | (soles/fanega)** | per Year | | | | | | |
| 1943 | | | | | 47,243 | 45 | 1.45 | 24.33 | | | |
| 1948 | | | | | 133,212 | 71 | 1.70 | 12.13 | | | |
| 1950 | 836 | 466 | 1,302 | | | | | | | | |
| 1951 | 3,963 | 1,111 | 5,074 | | 103,819 | 58 | 6.05 | 30.40 | | | |
| 1952 | 6,233 | 3,848 | 10,081 | 174 | 64,001 | | | | 121.6 | 166.7 | 288.3 |
| 1955 | 5,873 | 4,341 | 10,214 | 117 | 32,721 | | | | 492.1 | 113.0 | 605.0 |
| 1960 | 8,339 | 7,504 | 15,843 | 200 | | | | | 644.9 | 339.9 | 984.8 |
| 1965 | 4,677 | 4,926 | 9,604 | 453 | | | | | -947.8 | 483.2 | -464.6 |
| 1966 | 5,214 | 4,864 | 10,079 | 500 | | | | | -738.5 | 218.0 | -520.5 |
| 1967 | 4,421 | 2,460 | 6,881 | 496 | | | | | -680.6 | 334.2 | -346.4 |
| 1968 | 2,960 | 3,620 | 6,581 | 510 | | | | | -4.0 | 99.0 | -95.0 |
| 1969 | 2,576 | 1,866 | 4,443 | 848 | 16,701 | 37*** | 24.20 | 24.20 | -972.4 | 42.4 | -930.0 |

*"Denesne" production.

**One fanega equals 300 lbs.

***There were also 22 libras (free workers) from Udima and Orotún.

Sources: Cols. (1) - (4) and (9) - (11): Sociedad Pomalca V.P.S.A., "Balance General...1970," various tables.
 Cols. (5) - (8): Libros de Caja y S.P.V.P.S.A., "Balance General...1970," p. 43.

D. The Social Structure of the Hacienda

In the preceding sections I have dealt primarily with the influence of geography, technology, and market conditions on production and the organization of work. In this section I will treat more directly the social structure of the hacienda and its relation to the production system.

1. Pomalca

In Pomalca and its sugar-producing annexes, all productive assets were owned and controlled by the hacienda administration. Hacienda residents fell into one of the following strata depending upon the position occupied by each household's head in the hacienda production system:

1. Duenos (owners): The owners of Pomalca, occupying the highest administrative positions.
2. Tecnicos (technicians): Hired technical personnel, with university education.
3. Empleados (employees): Salaried workers, entrusted with the direction and control of work in field and factory; office workers; and nurses, teachers, night-watchmen, and other "responsible" service personnel.
4. Obreros Firmes (resident, full-time laborers).
5. Gente Temporal (temporary laborers): Personnel living with relatives on the hacienda, or trucked in by the day to cut cane or work on construction or other temporary jobs.

Table 11 shows the distribution of cash income among these strata for 1969 and 1972. This cash income distribution should not be considered the real income distribution, since foodstuffs, housing, medical care, schooling and a number of other services were provided by the hacienda on a discriminatory basis.⁷⁰ In addition, theft and various forms of unreported income in cash and kind affect the real distribution of income.

A quantitative methodology for analyzing power and its distribution is not at hand. A promising frame of reference, however, has been provided by Peter Blau.⁷¹ According to Blau, power is established by supplying needed benefits:

⁷⁰A detailed analysis of income, accounting for the distribution of cash pay, perquisites, and corruption, is not possible, but it appears that the distribution of cash and perquisites is somewhat less skewed than that of cash income. Unreported income probably accrued to the owners and middle-level field employees disproportionately.

⁷¹Peter M. Blau, Exchange and Power in Social Life (New York, 1967).

The four alternatives to submission that delineate the conditions of power imbalance [are]: (1) reciprocity; (2) alternative sources of needed benefits; (3) use of force; (4) suppression of need for benefits. This schema can be used to specify the conditions of social independence (strategic resources, available alternatives, coercive force, and ideals lessening needs), the requirements of power, the issues in power conflicts, and basic problems in the analysis of social structure.⁷²

This approach clarifies the relation between wealth (control over financial and other resources) and power (control over human beings) and emphasizes the economic foundation of social structure. A hacendado who monopolizes economic resources in an isolated rural area and eliminates alternative sources of resources, can exert great power over "his" Indios, colonos, or peones. On the other hand, to the extent that the hacendado is an oligopolist, rather than a monopolist (i.e., to the extent that he must compete for labor), the power he can exercise over "his" work force diminishes. My own research indicates that it is a great oversimplification to assume that the hacendado can exert anything like "total power" over his work force, or that he alone within the hacienda possesses power.⁷³

Until recently, the hacendado was the ultimate source of legitimate power within the boundaries of his hacienda. Nevertheless, it was the enganchador and the hacienda employees, particularly the field employees, who exercised power most often in dealing with the work force. To the peon enganchado (laborer indebted to a contract agent) the power and abuses of his enganchador or contratista far outweigh those of the hacendado on whose land he toiled. To the peon libre ("free" laborer) the malos empleados (despised hacienda employees), not the hacendado, were perceived as the immediate source of misery, and the most hated class enemies.

The case for "total power," based on debt peonage and absolute physical immobility, seems equally exaggerated. In the early part of the century, enganche was used to bind laborers to particular haciendas.

⁷²Ibid., p. xv.

⁷³For all its value as a heuristic device, the "baseless triangle," with "unconnected," dependent peons at the bottom and an all-powerful hacendado at the apex, is an extreme oversimplification. Diadic contract models of the hacienda--with (1) peasants as "clients"; (2) a monopsonistic, monopolistic hacendado as "patrón," (possessing all "first-order resources" needed by his peasants, and being the only employer of labor in the region); and (3) middle-level hacienda employees or intermediaries as "culture brokers"--are equally attractive, but misleading, for their simplicity.

Illiterate highland peasants were the most exploited by this system. The following tale relates the plight of three migrants from Chota:

In 1910 slavery still existed in Pucala. There I saw three men working in chains by day and locked in the hacienda's jailhouse at night. The three, indebted to an enganchador, left the hacienda and went to work on the guano islands. When they returned the hacienda employees grabbed them and put them in chains....Any peon enganchado that misses a day of work sleeps a night in the jailhouse...Listen, enganche results in slavery.⁷⁴

But even at the turn of the century coastal people worked on the sugar haciendas without the coercion of enganche. The following history is typical of several I heard:

I was born in Catacaos in 1890...My father had a lot of land, but little by little the wealthy landlords of the valley got it away from him. There were many battles over the irrigation water, and the big landowners always won....I came to Pomalca in 1913 after working in various haciendas and mines, including "San Rafael" (Casma), "Vilca Huaca" (Huacho), "San Nicolas" (Supe), and Cerro de Pasco....In Catacaos the wage rate was sixty centavos per day and in Pomalca it was one sol; naturally the people came running.⁷⁵

As population pressure increased in the highlands, coastal diseases were eradicated, and the "cash mentality" spread, the most coercive aspects disappeared from enganche.⁷⁶ Laborers were free to move, and did move often from hacienda to mine to construction site and back again. However, as one worker stated to me, "There was no reason to go elsewhere; the same system operated in all parts."⁷⁷

Thus, in recent times at least, laborers remained on, or returned to, the haciendas because they lacked promising alternatives elsewhere. The enganche system continued to function until the early 1960s, primarily as a mechanism to guarantee the sugar haciendas a precise number

⁷⁴ Interview: Manuel Silva (Pomalca) 8 April 1971.

⁷⁵ Interview: Teodoro Suyón (Pomalca) 13 March 1971.

⁷⁶ In the last quarter century enganche debts were often paid off in a few weeks. This conclusion is based on a revision of the account books of Sra. América Vda. de Arrasque, one of the most important enganchadores in Chota during this period.

⁷⁷ Interview: Pedro Zevallos (Pomalca) 9 March 1971.

of laborers on precise dates, not to hold particular laborers on particular estates indefinitely.

Within Pomalca the positions of greatest power and authority were occupied by members of the Piedra family. But as in every large-scale organization, a great deal of power and responsibility was delegated. Don Augusto de la Piedra C. played the role of hacendado and patrón, but in his own words, "My policy was to serve as a model, not to give orders; not to be a mayordomo. For that we had employees."⁷⁸ In my interviews with laborers it was nearly always the hacienda employee, not the hacendado, who was singled out as the most villainous character. This is particularly true of employees encharged with maintaining order and directing field work--jefes de zona, gobernadores, and mayordomos.

Technical decisions were made not by the employees directly responsible for field work, but by the hacienda's technical staff. The primary function of the jefes de zona and mayordomos were: (1) transmit orders and take responsibility for their implementation; (2) know well the (highly variable) natural conditions of their zones; (3) maintain order, both on and off the job, and cope with social problems.

Given the variability of local conditions, the length of the biological production cycle, and the impossibility of standardizing agronomic processes, it is impossible for the top-level administrators of large-scale agricultural enterprises to maintain strict control over the use of resources in field production. This lack of centralized control over resource use has three important consequences: (1) field employees have greater control over resources than have factory employees; (2) it is tempting for hacienda employees to employ hacienda resources for their personal gain; (3) field employees, by controlling resources needed by field laborers (jobs and job assignments, water, land, housing, pay, etc.) can exercise far greater power over workers than can factory employees.

In important respects, the use of hacienda assets for personal gain is not corrupt, but a form of payment, instituted prior to recent social legislation and unionization. By using often marginally productive hacienda assets field employees "helped themselves" without costing the hacienda as much as it might seem to an outsider. For example, the value of firewood to the hacienda was very low. The hacienda could not seed the banks of irrigation ditches and make a profit pasturing small herds of cattle there. Individuals were probably able to exploit these marginal resources more efficiently than was the hacienda.

My interviews with administrators and the owners indicate that they were fully aware of the small-scale abuses of hacienda rules. They viewed them as impossible to eliminate, and acceptable forms of rewarding responsible hacienda employees. Income data reveal that the cash incomes of field employees were low in relation to the incomes of

⁷⁸ Interview: Augusto de la Piedra C. (Lima) 2 June 1972.

factory and office employees. Field employees were occasionally denounced by laborers for theft or corruption, but unless these cases involved flagrant violation of hacienda rules⁷⁹ they were overlooked (in large part to maintain the legitimacy of the hacienda administrative structure and personnel). More often, laborers sought alliances (compadrazgo if possible) with employees as means of increasing their own personal income. In this way hacienda workers became involved in petty thievery and use of hacienda resources in ways which were completely institutionalized, yet outside the formal rules of hacienda life. This disparity between formality and everyday life gave hacienda employees and the administration a ready pretext to be used whenever they wished to sanction or expel a worker. Everyone broke the rules in one way or another, thus everyone needed "protection" in one form or another. At any time a "legal" pretext could be found for punishing or dismissing any hacienda worker.⁸⁰

Given the difficulty of policing field employees and the routine nature of field work,⁸¹ the principal criteria for selection of men for responsible positions were: (1) personal strength and ability to control the gangs of field laborers, (2) trustworthiness and loyalty to the hacendado.

The fact that hand cultivation is not machine-paced, but paced by the workers themselves, means that motivations and sanctions are much more important in maintaining discipline and productivity in field work than in factories. Since most of the cultivation tasks in cane production require no special or delicate care, piece rates (trabajo por tarea) are the most common form of payment. Typically a certain distance of weeding, seeding, or cane cutting is set as the day's tarea. As might be expected, the setting of tareas (which must vary with soil conditions and plant growth), penalties for poor quality of work, and discounts for incompletion of tareas are the main sources of labor unrest in the field. A principal task of field employees was to maximize the work completed per tarea, consistent with maintaining discipline among the workers.

⁷⁹In Pomalca there were extremely few written rules (in contrast to, e.g., Cartavio), but the unwritten rules were well understood by most hacienda residents.

⁸⁰Corruption as a means of social control is, of course, not limited to the hacienda. It is common wherever the "paternalistic system" operates within a "modernizing society," that is, wherever great inequalities in resource distribution allow great power to be exercised, irrespective of official or legal presumptions of human equality. Corruption and social control in Mexico's ejido system are discussed by Jorge Carrión in "La corrupción en el campo como medio de control social," in La corrupción (Mexico, 1969).

⁸¹Only gang labor cultivation tasks were under the jurisdiction of the jefes and mayordomos, not plowing, land leveling, and harvesting. An independent jefe de corte was responsible for the crews of cane cutters.

Field employees were selected from among the ranks of the laborers on the (apparently correct) assumption that they would know how best to exploit their own kind.⁸² The following statement reflects the depth of antagonism between employee and laborer:

There were never work incentives...work was simply repetitive.. The people never complained to the owners; they were under the feet of the employees. Before the union was formed no one had job security, or certainty that tomorrow he would have a house or anything. In the firm there was nowhere to complain. Nor could you go to the public authorities...There never was communication outside of the "chain of command." It was like a military system. Punishments went straight down to the worker. No one ever bothered to determine whether they were just or not. Intermediate level employees made the technicians and owners believe that the workers were by nature bad and lazy...The owners looked for employees who could drive the workers with insults and force. Those who sympathized with the owners, informed on other workers, and by other means got into the favor of the owners were named jefe...No jefe had technical training; they had practical experience, but were lacking in basic knowledge...They made people work "with the whip, not with words"...The word of the jefe de zona (field boss) was law; you had to listen and obey... Always the one who was the most despotic, cruel, and mean with the workers was the jefe...One time, in 1964, I think, a worker answered back to a field boss and the boss ran him down with his horse and whipped him with the reins; later they hauled him off to the jail in Chiclayo.⁸³

The process of unionization in Peru's sugar haciendas has been a long and chaotic one, closely tied to the political fortunes of APRA.⁸⁴ The three periods in which APRA has been allowed to function openly--the early 1930s, 1945-48, and since 1956--have been the periods of greatest union activity. In the 1930s and again in 1948, Aprista-controlled unions (that is, all unions) were crushed and party members were forced to hold clandestine meetings or no meetings at all. Since 1956 unions

⁸²It was also common for labor contractors to employ ex-laborers to boss the men in the field and collect debts.

⁸³Interviews: Name withheld (Pomalca) 13 March 1971 and 26 December 1971.

⁸⁴The history of Aprismo and unionization is discussed in several standard works on Peru; see, e.g., François Bourricaud, Power and Society in Contemporary Peru (New York, 1970); James Payne, Labor and Politics in Peru; the System of Political Bargaining (New Haven, 1965); Frederick Pike, A Modern History of Peru (London, 1967). The history of unionization in the hacienda Cayaltí (Zaña Valley) is discussed in the thesis of Orlando Plaza, "Historia del sindicato de Cayaltí" (Bachelor's thesis, Social Sciences, Pontificia Universidad Católica del Perú, 1971).

have been formed in every major coastal sugar estate except Tumán.⁸⁵ In most cases unionization was violently opposed by the hacienda owners and bloody clashes occurred. A list of the principal confrontations follows:⁸⁶

| <u>Date</u> | <u>Hacienda</u> | <u>Number of Deaths</u> |
|-------------|-----------------|-------------------------|
| 1959 | Casa Grande | 6 |
| 1960 | Paramonga | 5 |
| 1962 | Pomalca | 7 |
| 1963 | Pátapo | 3 |

In Pomalca resident laborers have been unionized, but employees, technicians, and part-time workers have not. Unionization has markedly altered pay rates and the use of power within the sugar haciendas. In Pomalca the union has demanded and obtained improvements in cash pay, housing, rations, medical care, and education. The treatment of workers by employees has also improved, and job security (guaranteed by law) has become established. Flagrant abuse of workers by their superiors has precipitated strikes and a gradual improvement in labor-management relations. In the early 1960s Pomalca established a "Labor Relations Department," which deals with problems posed by individual workers and the union, and has formulated an increasingly complex and standardized social policy.

Until the election of Belaunde in 1963 the sugar unions were universally controlled by APRA. However, by this time the increasingly intimate ties of APRA with the right-wing Odrista party and the active campaigning of Belaunde's Acción Popular (AP) party resulted in the defeat of APRA candidates in several hacienda elections.⁸⁷

⁸⁵The workers of Tumán have not unionized for two basic reasons: (1) they have been the best-paid workers in the Lambayeque Valley (receiving relatively low cash wages, but valuable perquisites, including food, clothing, schooling, and far-better-than-average medical care); (2) the hacienda has maintained very close watch over its population, and crushed all unauthorized organizations before they were able to enlist the support of a significant portion of the work force.

⁸⁶This is part of a more extensive list of rural massacres presented by Carlos Malpica in his essay, "El problema de la tierra," in Gustavo Espinoza and Carlos Malpica, El problema de la tierra (Lima, 1970), pp. 230-231.

⁸⁷The complexities of Peruvian politics and, in particular, the rightward drift of APRA, are discussed in the works cited in footnote 84, Part III infra. See also Jane Jaquette, "The Politics of Development in Peru" (Ph.D. Dissertation, Government, Cornell University, 1971), and Lisa North, "Orígenes y crecimiento del partido Aprista y el cambio socio-económico en el Perú" Desarrollo económico 10, 38 (July-September 1970).

In Pomalca, AP candidates won several elections after 1963. In most other sugar hacienda APRA remained in control despite opposition claims that the party and its unions were bought off by the owners. Despite APRA demands for agrarian reform in the 1930s and 1940s, by the early 1960s, when concrete reform proposals were debated in the national congress, APRA consistently opposed the expropriation of the sugar estates.⁸⁸

Three important correlates of unionization in Pomalca have been: (1) the liquidation of enganche, (2) mechanization, and (3) massive reduction in employment. One of the principal demands of unionizing laborers was the termination of labor-contracting in the highlands and the stabilization of the hacienda labor force. The hacienda yielded to this demand, but accelerated mechanization of field and transport operations and cut employment drastically in the process. When the agrarian reform law of 1969 was announced, the substitution of capital for labor was continuing, and hacienda employment had dropped to approximately one-half its 1960 level (see Table 3).

2. Espinal, Montesecco, and Udima

Income data for Espinal, Montesecco, and Udima are presented in Table 11. The same caveats apply to these as to the data for Pomalca. More importantly, this Table does not reflect the income earned from the sale of home-grown livestock and crops, and consumer goods dispensed in local stores.

The principal strata of Udima's hacienda organization are the following:

1. Superintendente (superintendent): Responsible for the administration of all sections (Udima, Montesecco, and Espinal).
2. Administrador (administrator): In charge of Udima and Espinal.
3. Empleados (employees): Salaried office personnel, mayordomos, a veterinarian, and the head of the cheese factory.
4. Servidores de Sueldo (salaried workers): A few permanent workers, payed on a monthly basis, but not receiving social security or the other benefits received by employees.
5. Peones Firmes (full-time laborers): More-or-less full-time laborers, working in construction, dairying, a few administrative tasks, and some of the more responsible positions in the field.

⁸⁸ APRA's position on land reform is discussed by Grant Hilliker in The Politics of Reform in Peru: The Aprista and Other Mass Parties of Latin America (Baltimore, 1971).

6. Pachaqueros or quinceneros (part-time laborers): Residents of the hacienda who spend most of their time in household production, but work for two-week stretches in the hacienda.

Relative to Pomalca, income, wealth, and power in Udima did not correspond so closely to formal position in the hacienda organization. This is due to the dual system of production in the hacienda, wherein household production units operate within the confines of a larger latifundist production unit. Several residents considered wealthy by hacienda standards (primarily in terms of cattle owned) did not work in the hacienda at all. A few pachaqueros participating in hacienda operations only marginally were more wealthy, powerful, and respected than other hacienda employees. The comisario, a particularly powerful figure in the hacienda, was a laborer, not an employee. The accountant for VPH, who performed a function in the hacienda similar to that of a royal visitador in colonial times, did not reside in Udima nor does he figure in the organizational list presented above, but he was a key figure in the hacienda power structure.

At this point, I cannot present general data on the income produced by non-hacienda activities in Udima.⁸⁹ However, the following is clear from my interviews and a preliminary review of hacienda papers: (1) for the majority of hacienda residents, individual production (cattle and crops) generated more income than wage-labor; (2) for the hacienda as a whole, individual production has generally exceeded hacienda production; (3) the bulk of capital accumulated in Udima came from individual, not hacienda, production; (4) the few significant fortunes made in Udima came from individual production and theft, not from hacienda salaries.

The power structure of Udima differs markedly from that of Pomalca in two important respects: (1) absentee ownership, resulting in a high degree of autonomy for hired personnel; (2) absolute immobility of the hacienda population--the majority of campesinos were born in the hacienda and will die there. The regime is strikingly "colonial." Capital and managers entered the region, extracted a surplus from the indigenous population, and employed this surplus for consumption and investment elsewhere. Labor exploitation was more overt than on the coast, uncomplicated by the operation of labor markets. In extremely few cases have established campesinos chosen to abandon their houses, parcels, and cattle, and seek work or land elsewhere.

In the late 1930s, three men were hired from San Miguel. By 1950 one had become head of Udima's accounting office; another was in charge of hacienda livestock; the third had become head of the cheese factory. These three formed a solid alliance which dominated the hacienda from 1950 until 1969. Throughout this period a Superintendent (residing in Monteseo) was formally responsible for the administration of the hacienda, and various administrators were assigned to Udima, but effective control

⁸⁹More data will be presented in my dissertation.

was exercised by the "mafia" from San Miguel (as they were occasionally referred to by hacienda residents). The conditions permitting such control are outlined below:

1. The three were compadres to each other, and to VPH's accountant, sent annually to inspect the hacienda, check the books, and count the cattle.
2. Among the three, they managed the hacienda office and the two principal hacienda activities.
3. Pachaqueros resisted day-labor, and never fulfilled their labor obligations with the hacienda. Consequently, the "mafia" could threaten enforcement of hacienda laws and extort resources from the campesinos directly, or force their collaboration in theft of hacienda cattle, lumber, etc.
4. The three conspired to sabotage the plans and projects of new administrators sent to Udimá by VPH, and denounced them as incompetents before the Superintendente in Monteseco and the administration in Pomalca and Lima.
5. The three earned very low cash salaries, and were valuable to VPH, since they knew the hacienda, possessed certain managerial and administrative skills, and were capable of maintaining order and extracting surplus from the hacienda.

It is doubtful that these three men caused the downfall of Udimá, but it is certain that they contributed to it. The three left Udimá shortly after the declaration of the agrarian reform law of 1969. They own houses in Chiclayo, and resources worth several hundred thousand soles each. The residents of Udimá believe that these three men and the superintendant in Monteseco have bankrupted the hacienda.

The superintendent from 1954 until 1971 presided over, and apparently benefited from, the economic collapse of Monteseco and Udimá. In Monteseco he is cursed as the man who had the fruit trees cut, destroyed the coffee plantation, and provoked the labor union to justify frequent trips to Chiclayo. The laborers say that he knew nothing of coffee cultivation, or of cattle grazing or rice growing. Instead, he relied on fast talk to remain in good stead with VPH. As one worker remarked to me, "He called himself 'engineer,' but seemed more like a lawyer." He is universally denounced for theft of livestock from both the hacienda and the residents of Monteseco. Today he owns a store in a wealthy suburb of Chiclayo, a large, new home in Chiclayo, and a farm in Motupe.

In Monteseco, the operational structure was quite simple. One superintendent, three mayordomos, a manager for the coffee factory, and the usual service personnel (office employees, a medic, a few school teachers) occupied the highest positions in the organization. Caporales and laborers occupied the lower positions. The superintendent was relatively independent from VPH, and exercised a great deal of power over

both employees and laborers. In contrast to Pomalca, the *jefes de zona* in Montesecco were more autonomous and responsible for work in their areas, probably due to their years of experience, the lack of technical progress in coffee production, and the lack of expertise and practical knowledge on the part of the administrator. Production methods remained relatively primitive, and became less intensive over time. Labor turnover was high, and labor-administration conflicts were frequent and intense. By 1969 the work-day had been reduced to four hours. According to hacienda employees and laborers, the measured *tarea* had remained approximately the same, but the quality of work had dropped by 50 percent or more. Continuing battles between the union and the administrator, stagnant or declining pay, and overt corruption on the part of the administrator precipitated a crisis of discipline within the hacienda which greatly exacerbated the economic crisis. It is difficult to ascertain which of the various factors is most central to Montesecco's collapse, since very few business papers remain from the 1960s.

In Espinal as in Udima, household production rivaled hacienda production in importance, and colonos formed the most numerous social stratum. No administrator lived in the hacienda, nor did an accounting office function there. Instead, orders were received from Udima and (less often) Pomalca, and pay sheets, cost data, and production statistics were returned for the preparation of business accounts. Within Espinal, orders were implemented by three *mayordomos* and a controlador (general overseer and representative of VPH). By exercising control over the allocation of inputs necessary for peasant production (irrigation water, credit, fertilizers, plots of land), jobs and job assignments, and the few social services dispensed by the hacienda (houses, transportation, cheap medicines) these four men were able to exercise great power over the resident population and divert inputs from hacienda use to their own personal use. At the time of the 1969 agrarian reform the hacienda employees were also the largest and most prosperous colonos. Typically they owned homes and maintained households outside the hacienda.

In the wake of unionization in the coastal sugar haciendas, unions were established in Montesecco and Espinal. When Espinal entered the process of agrarian reform and colonos were denied work, the union transformed itself into an Asociación de Campesinos (peasant association) and negotiated not with VPH but with agrarian reform officials. In Montesecco union confrontations with the management were frequent and violent but had little impact on either pay rates or mechanization. Given the terrain, the crop, and available technology, mechanization was not a feasible alternative to labor-intensive production. Instead, the administration sought to economize labor and cultivate less intensively.

Part IV. AGRARIAN REFORM AND COLLECTIVIZATION

A. Agrarian Reform Under Belaunde

Prior to the military coup of October 1968, most land expropriation for purposes of agrarian reform was ad hoc, and occurred prior to the legislation of a general agrarian reform law. Peasant rebellion and land invasions in the Central and Southern Highlands forced the issue of agrarian reform.¹ The documents drawn up hastily for the expropriation of "Algolán" in Cerro de Pasco and several haciendas in the valleys of La Convención and Lares were ad hoc, and legitimized de facto peasant occupations.²

When an agrarian reform law of national scope was finally legislated (Law No. 15037 of 1964) it was difficult to implement and the agrarian reform program was poorly financed.³ Consequently, land redistribution did not occur on a significant scale, and Peru's agrarian reform became a classic example of what Ernest Feder terms "counterreform"--public

¹The various causes of agrarian reform in Peru may be grouped under the following headings: (1) poor economic performance of agriculture; (2) massive rural-urban migration; (3) declining role of the landed oligarchy in Peruvian society; (4) peasant rebellion and land invasions; (5) desire of the military to crush APRA; (6) political stalemate and crisis under Belaunde; (7) development ideology of the Armed Forces. Works cited in footnotes 84, Part III and 87, Part III infra discuss these issues. See also Thomas Carroll, "Land Reform in Peru," AID Spring Review of Land Reform (Washington, D.C., 1970). On the crucial role of peasant movements, see the CIDA-Peru study, pp. 391-400; Gerrit Huizer, The Revolutionary Potential of Peasants in Latin America (Lexington, Mass., 1972), pp. 114-124; Hugo Neira, Cuzco: Tierra y muerte (Lima, 1964); Wesley Craig, Jr., "Peru: The Peasant Movement of La Convención," in Latin American Peasant Movements, ed. Henry Landsberger (Ithaca, N.Y., 1969). Analyses which place the Peruvian agrarian reform in historical perspective are: Aníbal Quijano, Nacionalismo, neoimperialismo y militarismo en el Perú (Buenos Aires, 1971), pp. 7-53; Julio Cotler, "Crisis política y populismo militar en el Perú," mimeo. (IEP, Lima, 1969); and Cotler, "Bases del corporativismo en el Perú," Sociedad y política 2 (octubre de 1972).

²Huizer, The Revolutionary Potential; and the CIDA-Peru study.

³James F. Petras and Robert La Porte, Jr. discuss the implementation of agrarian reform under the 1964 and 1969 laws in Cultivating Revolution, the United States and Agrarian Reform in Latin America (New York, 1971). Their analysis of the implementation of the 1964 law draws heavily upon a CIDA study entitled, "Una evaluación de la reforma agraria en el Perú" (Washington, D.C., 1966).

debate, legislation, establishment of Agrarian Reform Offices, and political propaganda, but no significant land redistribution.⁴

The sugar haciendas were exempt from the provisions of the law, and expropriation of other haciendas proceeded at a snail's pace. As of September 1968 only 61 properties with 615,000 hectares had been expropriated, and less than half the expropriated land had been adjudicated. The number of families receiving land was just over 9,000. Another 324 properties had been affected under Title XV of the law, which granted coastal sharecroppers and labor tenants titles to the plots they occupied. Several thousand of these feudatarios (as they are termed by the law) received provisional titles under Title XV, but to my knowledge no, or very few, definitive titles were granted.⁵

Among the coastal haciendas affected by Title XV was the VPH estate Espinal. As stated in Part III, above, prior to agrarian reform colonos in Espinal operated strictly "bajo la protección de la hacienda" ("under the protection of the hacienda"), receiving land, irrigation water, seed, fertilizer, and short-term credit from the administration, and settling their debts with rice deliveries and obligatory day labor at less-than-market wages.

In 1965 Peru's Agricultural Research and Promotion Service (SIPA) initiated its "Plan Costa," under which supervised credit was provided to smallholders and hacienda colonos at rates far lower than those charged by the hacienda administration.⁶ At this same time officials from the National Office of Agrarian Reform (ONRA) were interviewing colonos in Espinal in preparation for the expropriation of their plots.

Fearing expropriation, VPH attempted to force the colonos from the hacienda. Wage labor was denied them, as were credit, seed, and fertilizer for cultivation. Handsome severance pay, bonuses for improvements made on colonized land, and employment outside the hacienda were offered colonos willing to leave the hacienda. A number of colonos yielded to VPH's pressures and offers and left the hacienda. A few had the courage to accept the Piedras' money and stay on the hacienda. The majority,

⁴Ernest Feder, "Counterreform," Agrarian Problems and Peasant Movements in Latin America, ed. Rodolfo Stavenhagen (Garden City, N.Y., 1970).

⁵The data cited in the preceding paragraph are from John Strasma, "The United States and Agrarian Reform in Peru," U.S. Foreign Policy and Peru, ed. Daniel A. Sharp (Austin, 1972), p. 182.

⁶Peru's supervised credit programs are discussed by Michael Finn, "Supervised Agricultural Credit in Peru; Technique Adoption, Productivity, and Loan Delinquency in Plan Costa" (Ph.D. Dissertation, University of Wisconsin, 1972); and Octavio Carranza, "Small Farmer Supervised Credit in Peru," A.I.D. Spring Review of Small Farmer Credit (Washington, D.C., 1973).

however, refused to negotiate with the administration, remaining stubbornly on "their" land. Lacking both remunerative employment and credit, the majority of the colonos would have been eventually forced from the hacienda if it had not been for the SIPA credit program.

SIPA's lending policy differed from that of the hacienda in three main respects:⁷ (1) funds were loaned for only one crop per year; (2) funds were loaned for "productive purposes" only, e.g., not for emergencies unrelated to rice cultivation; (3) rice produced under SIPA credit was to be sold not to the hacienda, but to rice mills in Chiclayo, with payment being made via the Agricultural Development Bank. The Bank deducted the principal and interest due it, and delivered to the producer the net value of his sale.

Under SIPA's program the prices paid to rice producers exceeded those previously received by the colonos of Espinal. In addition, credit was made available in greater amounts and at lower cost. Higher rice prices and cheaper and more abundant credit allowed the residents of Espinal to hold out against the hacienda. VPH brought in migrant laborers from the villages north of Lambayeque, and attempted to maintain rice production on its remaining land, but profits evaporated as labor costs increased and battles with the colonos over irrigation water ensued.

As in all of Peru, expropriation and adjudication processes moved very slowly in Espinal. To speed the reform, the colonos of the hacienda, led by ex-union leaders, formed an Asociación de Campesinos which pressured ONRA offices in Lambayeque and Lima. In 1968 the members of this association raised 50,000 soles which were delivered to the Corporación Financiera de la Reforma Agraria (Agrarian Reform Financial Corporation) in Lima in advance payment for their lands. Late in the year provisional titles were granted the ex-colonos, and definitive titles were promised for early 1969.⁸

When provisional titles were granted the colonos of Espinal, interest in agrarian reform spread to other haciendas in the region. In Udima, two artisans not on the regular hacienda payroll⁹ actively organized the hacienda colonos, acquiring signatures and cash contributions and traveling to the ONRA offices of Cajamarca, later Chiclayo, and finally Lima. These men were consistently discouraged by agrarian reform officials and harrassed by VPH employees and the police. Their persistence, however, resulted in the formal establishment of an Asociación de Campesinos and

⁷Interview: Ing. [?] Rosos (Oyotún) 3 December 1971.

⁸Interviews: Francisco Lopez and Francisco Farfán (Espinal) 25 November and 1 December 1971.

⁹The men were paid by the job; they were not required to report for work in the hacienda.

the decision of the part of the association's members to boycott the annual rodeo (for determining rental charges) and to withhold payment of rent to the hacienda.¹⁰

When the new agrarian reform law was announced in June 1969, the campesino movements of both Udima and Espinal evaporated (temporarily) and the colonos entered a long período de esperanza (waiting period).

In 1964, in order to separate Monteseco from the colonized haciendas Udima and Espinal, and thus prevent its expropriation under the agrarian reform, a new corporation, "Negociación Monteseco S.A.," was founded. Later, sugar cane was seeded in Espinal for milling in Pomalca. In 1969, on the unwarranted assumptions that Pomalca would never be expropriated and that Udima and Espinal could be saved if they were fused legally to Pomalca, the two corporations, SAP and VPH, were unified.¹¹ Shortly thereafter, all these properties were expropriated under the new agrarian reform law No. 17716.

B. Agrarian Reform Under the Velasco Government

1. National Trends

After the coup of 1968, Peru's military government substantially increased funding for agrarian reform. In January 1969 a settlement was reached with one of the country's largest landowners, the Cerro de Pasco Corporation, over terms of expropriation, and their highland estates came under agrarian reform. Over the next few months a new agrarian reform law was drafted to replace the conservative and cumbersome 1964 law.¹²

This new agrarian reform law (No. 17716) and subsequent agrarian legislation differ from the previous agrarian reform legislation of Peru and from the agrarian legislation of other Latin American countries in several important respects. Most importantly, the Peruvian legislation is relatively easy to implement, it does not exempt the corporate-owned coastal haciendas from its provisions, and it promotes the collectivization of agriculture.¹³

¹⁰Data on the formation of Udima's peasant association are drawn primarily from interviews with the association's founders, José Fernandez and Salvador Alcántara. This subject will be dealt with more extensively in my dissertation.

¹¹See footnote 10, Part III infra.

¹²John Strasma, "The United States and Agrarian Reform in Peru."

¹³The 1969 agrarian law is discussed and analyzed by Luis Pásara, "El primer año de vigencia de la ley de reforma agraria," Cuadernos DESCO (Lima, September 1970); Fred Mann, J. Huerta, et al., "Preliminary Analysis, Agrarian Reform Law No. 17716," Iowa-Peru Mission Program Report T4 (Lima, January 1970); and Roberto Mac-Lean y Estenos, "La reforma agraria en el Perú (1964-1972)," Derecho y reforma agraria: revista 4,4 (1973).

Implementation of the new agrarian reform law began almost immediately, affecting first the highly productive sugar complexes of Peru's north coast. Within a week these agro-industrial complexes (Pomalca among them) were "intervened" and expropriation procedures had been initiated.

Hacienda lands expropriated under the 1969 agrarian reform law may be adjudicated to the following types of legal entities (listed in descending priority):¹⁴

1. Production Cooperatives: Centrally administered production units in which workers participate in ownership, management, and earnings.¹⁵
2. Peasant Communities: Recognized peasant communities may receive expropriated hacienda lands.
3. Agrarian Associations of Social Interest (SAIS): Cooperative-like units which fail to meet one or more of the legal requirements for constitution of a production cooperative.¹⁶
4. Pre-cooperative Units: Units which, within a stipulated time period, will acquire the legal status of production cooperative or SAIS.
5. Private Individuals¹⁷

Wherever feasible, production cooperatives are established. The SAIS has been an important mode of adjudication in the highlands where prosperous haciendas (e.g., those of Cerro de Pasco) are surrounded by impoverished communities. In order to preserve existing enterprise units, hacienda lands are neither parceled among their workers nor adjudicated to the surrounding communities. Instead, haciendas are adjudicated to their workers as production cooperatives, and the production cooperatives and satellite communities become members of a single SAIS. In this way

¹⁴A detailed discussion of these forms of new enterprise units is found in a paper presented by Peru's Ministerio de Agricultura at the Seminario Latinoamericano de Reforma Agraria y Colonización (Chiclayo, Peru, 29 November - 5 December 1971) entitled "La nueva estructura agraria."

¹⁵Peru, Dirección General de Reforma Agraria, Dirección de Difusión de la Reforma Agraria, Del latifundio a la cooperativa (Lima, n.d.).

¹⁶Peru, Dirección General de Reforma Agraria, Dirección de Promoción y Difusión, SAIS, creación de la Revolución Peruana (Lima, n.d.).

¹⁷According to H. Van de Wetering, "The Current Status of Land Reform in Peru," LTC Newsletter no. 40 (April-June 1973), p. 5, no land has been allotted to private individuals under the 1969 law.

communities participate (marginally) in the management of the production cooperatives and in their earnings.¹⁸

Tables 7, 8, and 9 (See p. 61 of this section) reflect the progress in Peru's agrarian reform program as of June 1972, and project the long-range impact of land redistribution on land ownership patterns. Approximately 60 percent of all farmland in Peru is not subject to redistribution. As of June 1972, one-fifth of the land subject to expropriation had been redistributed, indicating that the redistribution program is not likely to be completed by the official deadline, 1976. Land redistribution has proceeded fastest on the irrigated lands of the coast, and slowest in the highlands. Most land has been adjudicated to production cooperatives and SAIS.

Projections made by Peru's Agricultural Planning Office (OSPA) indicate that when the agrarian reform is complete, one-quarter of Peru's farmland will be owned by production cooperatives and SAIS; three-quarters will remain the property of peasant communities and private individuals.¹⁹

A central characteristic of the Peruvian agrarian reform is its emphasis on the cooperativization of agriculture. As Article 1 of the 1969 law states, the intent of agrarian reform is to eliminate both the latifundia and the minifundia and replace these with a just production system. Numerous types of cooperative and communal institutions have been promoted by the Peruvian agrarian reform, the principal one being the production cooperative. In the remainder of this paper the cooperativization of the haciendas of VPH will be discussed. For each estate, analysis of organizational changes will be carried out at two levels:²⁰

- (1) Production Planning
- (2) Operational

Within each cooperative, production planning is carried out by formal cooperative bodies which draw their authority from the general assembly, composed of all cooperative members. The general manager occupies the highest position in the operational organization, but he is directly responsible to the administration council of the cooperative (see accompanying organigram p. 62).

Outside the cooperatives, agrarian reform has also altered what might be termed the "service infrastructure" which links each production cooperative to the larger economy and society. The most important

¹⁸See footnote 16, Part IV infra.

¹⁹Corporations may no longer own farmland.

²⁰These terms are from Folke Dovring, "Variants and Invariants in Comparative Agricultural Systems," American Journal of Agricultural Economics 51,5 (December 1969), p. 1264.

cooperative service institution created under the agrarian reform is the CECOAAP (Central Sugar Cooperative).²¹ Similar Centrales are being established for other types of cooperatives (e.g., coffee producers) but to date their social and economic functions are of modest scope. The most important state-operated service institution is the Agricultural Development Bank, which is the sole supplier of agricultural credit to Peru's agricultural production cooperatives.

2. New Cooperative Institutions in Pomalca

Most analyses of the Peruvian agrarian reform draw particular attention to the coastal agro-industrial complexes. This is understandable since: (1) these are the first Latin American plantations to be expropriated since the Cuban revolution; (2) the Peruvian military government initiated the process of agrarian reform in the sugar complexes; (3) the formation of sugar cooperatives in the complexes has been accompanied by great fanfare; (4) these are the properties of the infamous Peruvian landed oligarchy; (5) they are also the traditional stronghold of Aprismo; and (6) the sugar complexes are important contributors to national GNP and earners of foreign exchange.

Since June 1969, the sugar haciendas have been transformed into cooperatives in which workers participate directly in ownership, management, and earnings. The entire membership of the cooperative can meet when deemed necessary in "General Assembly." Normally, however, the cooperative's business is transacted by an elected assembly, councils and committee, and by a salaried manager and technical staff.²² In the sugar

²¹The Central de Cooperativas Agrarias de Producción Azucareras del Perú Ltda. (CECOAAP) occupies the offices of an eleven-story building in Lima.

²²In late December 1971 workers in Pomalca met in general assembly and voted to expel four technicians from the cooperative: the general manager, field administrator, factory administrator, and head of labor relations. The assembly took place during a strike which erupted just before Christmas. The strike came after an announcement that year-end dividends would be significantly lower than those paid the previous year, and lower than those currently being paid in neighboring cooperatives. Workers demanded that four top-level technicians be expelled from the cooperative. The four technicians were denounced publicly for having poorly managed the cooperative, but it was widely known that more fundamental issues were involved. Most workers distrusted three of the four technicians in question, and considered their high incomes unjustifiable. The fourth was included on the lista negra principally for his conspicuous position in the cooperative (field administrator) and for his previous association with the Piedra family and with the three other technicians expelled. After long debate and an official investigation (in which no evidence of poor management was uncovered on the part of any of the four) this last technician was invited to return to his post in the cooperative. In 1973 he was elected president of the cooperative.

Table 7. Cumulative Expropriation in Relation to Total Land Base, as of June 1972

| | Total (1000 has.) | Expropriated (1000 has.) | Percent of Total |
|------------------|----------------------|-----------------------------|---------------------|
| Irrigated lands | 1,063 | 293 | 27.5 |
| Rainfed lands | 1,531 | 190 | 12.4 |
| Natural pastures | <u>27,072</u> | <u>2,600</u> | <u>9.6</u> |
| Total | 29,667 | 3,083 | 10.4 |

Table 8. Form in Which Expropriated Lands Were Allotted, 1962-June 1972

| | No. | Has. (1000) | No. of Families | Has./Family |
|----------------------|--------|----------------|--------------------|-------------|
| Cooperatives | 134* | 811 | 44,106 | 18.4 |
| Peasant communities | 61 | 331 | 15,815 | 20.9 |
| SAIS | 10 | 800 | 11,691 | 68.4 |
| Individual ownership | 16,367 | <u>120</u> | <u>16,367</u> | 7.3 |
| Total | | 2,062** | 87,979 | |

*Now up to approximately 174.

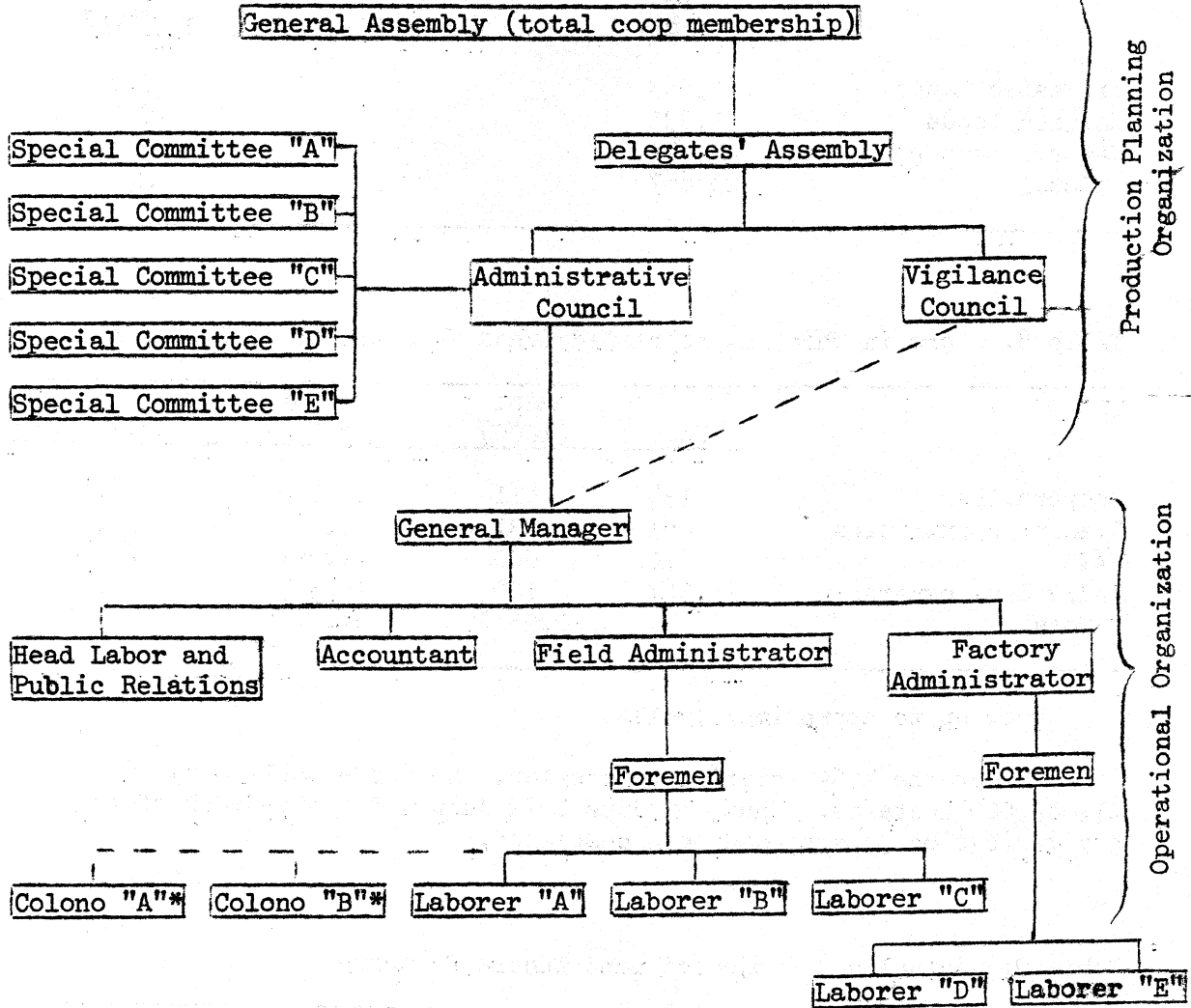
**Under the 1969 agrarian reform law, the "affectable area" is 11,869,000 hectares. Thus, by June 1972 just under one-fifth of the redistribution program had been completed.

Table 9. Actual and Projected Land Tenure Patterns

| | June 1972 | June 1976 | |
|----------------------|---------------|---------------|-------------|
| | (1000 has.) | (1000 has.) | (percent) |
| Coops and SAIS | 1,610 | 7,252 | 24.9 |
| Peasant communities | 8,163 | 9,232 | 31.7 |
| Individual ownership | <u>19,336</u> | <u>12,625</u> | <u>43.4</u> |
| Total | 29,110 | 29,110 | 100.0 |

Source: H. Van de Wetering, "The Current State of Land Reform in Peru," Land Tenure Center Newsletter no. 40 (April-June 1973), pp. 5-9.

Simplified Organigram Showing the "Production Planning" and "Operational" Organizations of a Production Cooperative



*Broken lines linking the colonos to the foremen indicate that colonos are relatively independent producers, rather than laborers complying with daily work orders.

cooperatives, 120 workers are elected to a "Delegate's Assembly" which assumes responsibility for the collectivity of workers. From this assembly nine members are elected to an "Administrative Council," seven to a "Vigilance Council," and five to each of several "Special Committees."

The administrative council deals with both economic and social matters. The hiring of technical personnel, the sanctioning and expulsion of cooperative members, and decisions on production, investment, and pay rates all fall within its jurisdiction. The vigilance council is responsible for reviewing the decisions of the administrative council and for investigating suspected cases of wrongdoing. The special committees concern themselves with specific problem areas. For example, the "Comité de Fábrica" is composed of several workers who discuss and investigate problems related to the factory, and report their findings to the administrative and/or vigilance councils.

A general manager, appointed by the administrative council,²³ oversees day-to-day administration of the cooperative and is responsible to the cooperative councils. A representative of the military government²⁴ resides on each complex and acts as a "patrón de ultima instancia," handling non-routine grievances of workers, preserving social order, seeing that field and factory operations proceed smoothly, and insuring that decisions of the administrative council, the manager, and the technical staff comply with Peru's cooperative and other legislation.

Each sugar cooperative is a member of CECOAP, which plans and coordinates production and investment; draws up monthly, semestral, and annual accounting documents; handles the provision of supplies and credit to the cooperatives; manages the domestic and foreign distribution of sugar; and acts as public relations office for the newly cooperativized sugar industry.²⁵ Within each sugar cooperative the organization and direction of production (the "chain of command," and day-to-day decision-making) remain much the same under cooperative management as they were in the hacienda. Sugar is cultivated, milled, and refined in the same fashion as before the reform. The routines of field and factory work continue unchanged. Except for a few changes in administrative personnel,

²³The appointment must be approved by the Ministry of Agriculture.

²⁴This representative is an official of the Sistema de Asesoría y Fiscalización para las Cooperativas Agrarias de Producción. See Javier Gastón, "Reforma agraria y conducción militar: Sobre el significado del 'Sistema de Asesoría y Fiscalización de la Reforma Agraria,'" Cuadernos agrarios 1 (1971); and Giorgio Alberti and Julio Cotler, "La reforma agraria en las haciendas azucareras del Perú," Mimio. (IEP, Lima, 1973) (Chapter in a forthcoming anthology on the Peruvian agrarian reform edited by Giorgio Alberti).

²⁵The CECOAP and public relations offices for the government take great pride in stating that Peru's sugar industry is the first entirely cooperativized industry in the Western Hemisphere.

the same individuals occupy the same positions in the organizational structure. Where administrative positions have been vacated (most notably through the withdrawal of hacienda owners and their most trusted employees) cooperative members occupying positions just below them have usually moved up to fill them. Less often, employees have been brought in from outside the business. These new employees generally come from other sugar estates.

The administrative council is the principal decision-making body of the cooperative. This council, however, spends the bulk of its time deliberating questions of a social nature, leaving more technical, financial, and administrative problems to the CECOAAP and the technical staff of the cooperative. The council may decide, for example, how much of the cooperative's net income will go for housing, how much for food, medicine, and cash wages. But it cannot determine the total of these. The CECOAAP and higher authorities draw up a long-term investment plan which the cooperative (more or less passively) approves. Consequently, cooperative members can affect their personal net income primarily by raising productivity (through, e.g., maintaining discipline on the job), minimizing corruption within the cooperative, altering the internal distribution of income, and raising their own wages, in order to shift their pay from an "income" to a "cost" account, and thus lower net earnings (exedentes) and the tax on these earnings. Consequently, cooperative bodies concern themselves primarily with: (1) maintaining discipline and minimizing corruption within the cooperative; (2) determining the distribution of income among cooperative members; (3) deciding upon the form in which net income will be delivered to cooperative members (cash or services).

As originally written, the by-laws for cooperative elections allowed the government to select the majority of assembly delegates, and prohibited union leaders and political activists from serving on cooperative bodies.²⁶ These restrictions on the democratic functioning of the cooperatives resulted in a great deal of labor unrest and several violent encounters between workers and the police. In early 1972 the government eliminated these restrictions and "turned the cooperatives over to the workers." Cooperative elections in 1972 and 1973 have been completely democratic. In 1972 the brother of the general secretary of Pomalca's union (an APRA party member) was elected president of the cooperative. By 1973 the workers had become well aware of the limited value of "worker control" of the cooperative; a technician with long years of experience in the ex-hacienda was elected president.

²⁶D.S. 019-70-PM, regulating cooperative elections, and other pieces of legislation complementing and modifying Peru's 1969 agrarian reform law are included in the two-volume Compendio agrario published by Luis Dongo Denegri (Lima, 1971). The election rules are discussed by Alberti and Cotler in "La reforma agraria."

In summary, the most salient legal and organizational changes produced by agrarian reform in the sugar complexes are the following:

1. Property titles have been transferred from landowning corporations to the workers' cooperatives.
2. A few of the highest level administration personnel (the owners and their most trusted employees) have left the cooperatives.
3. Cooperative assemblies, councils, and committees have been established, and democratic elections are held to select their members.
4. These new cooperative bodies assume part of the administrative functions of the previous owners, deliberating and determining the economic and (especially) social policy of the cooperatives.
5. The cooperative manager and his technical staff become responsible to the workers via the cooperative assembly and councils.
6. The CECOAAP assumes most of the business functions of the Lima offices of the ex-haciendas.
7. The Peruvian state (via the Ministry of Agriculture, Agricultural Development Bank, and other institutions) intervenes much more directly in the administration of the enterprise than was the case prior to the reform, particularly in production planning and investment decisions.

Table 10. Area Cultivated and Sugar Produced in the 12 Sugar Cooperatives, Members of the CECOAAP

| <u>Year</u> | <u>Cultivated Area</u> | <u>Sugar Produced (96°)</u> |
|-------------|----------------------------|---------------------------------|
| 1967 | 82,242 Hectares | 755,931 Tons |
| 1968 | 74,803 " | 771,989 " |
| 1969 | 76,218 " | 650,102 " |
| 1970 | 78,864 " | 794,902 " |
| 1971 | 83,575 " | 913,274 " |

Source: CECOAAP, "Informe anual de operaciones de producción, 1971" (Lima, 1972), p. 2.

3. Cooperative Institutions in Non-Sugar Estates

While the agro-industrial complexes are Peru's best known and most successful cases of land reform, the sugar cooperatives are not typical of the enterprise units in the reformed sector of Peruvian agriculture. These dozen sugar estates were Peru's largest farming units, in terms of value of production, and capital and labor employed, and the most profitable estates in the country. As production cooperatives they are the largest and most complex in the world.

More typical are the SAIS and production cooperatives of the highlands. These units, while often covering immense areas of land, are smaller than the sugar complexes in terms of membership, value of production, and marketed surplus. Production processes are generally more primitive, and the organization of these production cooperatives is simpler.

As mentioned above, the Peruvian agrarian reform was initiated first in the sugar complexes, and the military government has taken great care to implement the reform swiftly and successfully in these estates. A few highland estates of strategic economic and symbolic importance (e.g., those of Cerro de Pasco and Ganadería del Centro) have also been high on the list of agrarian reform priorities, but as a rule the agrarian reform has been implemented less aggressively and successfully in the highlands than on the coast. Within the coastal region resources at the disposal of the agrarian reform institutes have been invested and consumed most lavishly in the sugar complexes.²⁷

On Peruvian sugar haciendas both field and factory production was centrally managed, and thus the production cooperative model was easily applied. In other wage-labor haciendas, such as Montesecco, the cooperative organization was entirely consistent with the existing hacienda organization. But where hacienda lands were occupied by sharecroppers and labor-tenants (e.g., Udimá and Espinal) the constitution of a production cooperative requires the expropriation of lands and cattle held by hacienda residents.

To date the operational organization of non-sugar haciendas affected by the agrarian reform has changed little. In some cases, where conflicts between hacienda residents and agrarian reform officials have been intense (e.g., Espinal), definitive adjudication has been postponed. In other cases (e.g., Udimá) agrarian reform officials have ignored the law and adjudicated the estate as a production cooperative even though production has not been collectivized and members continue to cultivate individual plots and pasture their own livestock.

Where constituted, the formal cooperative organization of the non-sugar estates corresponds closely to that of the sugar cooperatives. The number of special committees is smaller and the specific concerns of these are determined by the special characteristics of each cooperative.

²⁷H. Van de Wetering, "The Current Status of Land Reform in Peru."

Elections are held to fill positions on the formal cooperative bodies. But within the operational organization of the cooperatives, workers often occupy the same positions as they did in the hacienda.

The sugar cooperatives were set up primarily by Peru's National Office of Cooperative Development (ONDECOOP) and by public officials sent directly from Lima. Once established, the operation of these cooperatives has been closely scrutinized by various governmental agencies and the CECOAAP. Outside the sugar complexes, the organization of cooperatives has been slower, and more responsibility has been delegated to local agrarian reform offices. Once established, their operation is less closely scrutinized by all public institutions other than the Agricultural Development Bank (the sole financier for the non-sugar cooperatives).

In both Udimá and Espinal the collectivization of production has been proposed by ONDECOOP and the Ministry of Agriculture, but rejected by the agrarian reform beneficiaries. The colonos see the formation of production cooperatives as a more serious threat than any posed by their ex-landlord. Never was VPH able to force them off the land. Collectivization to them connotes primarily the collection of surplus by the state and its agents. As one colono stated to me: "Before the hacendado exploited us, but now, with the agrarian reform, these técnicos and bureaucrats come to exploit us."²⁸

Espinal poses an extremely critical dilemma for the establishment of a production cooperative. In 1971 a "precooperative committee" was established to administer production on the lands of the ex-hacienda. Elections to fill positions on the committee were free, and apparently the will of the voters was accurately expressed; the majority of Espinal's residents were opposed to the constitution of a production cooperative, and so were the men elected to administer the pre-cooperative. Rather than attempting to carry out their jobs responsibly and foster the development of a cooperative spirit, the committee made flagrant personal use of cooperative resources, and frustrated the work of cooperative promoters sent to Espinal by ONDECOOP and the Ministry of Agriculture.²⁹

Espinal's Asociación de Campesinos, which petitioned the government for agrarian reform in the period 1965-1969, is now actively opposing the constitution of a production cooperative. The association demands the formation of a cooperativa mixta (mixed cooperative) in which members may continue to farm their plots individually, and would work the lands of the ex-hacienda collectively. As of March 1973 the lands of Espinal had not yet been adjudicated and the form of Espinal's cooperative had not been determined. Residents continued to farm their plots individually

²⁸Interview: Francisco Farfán (Espinal) 1 December 1971.

²⁹Interviews: Enrique Fernandez and Quiteria Vera (Espinal) 14 and 15 November 1971.

and worked by the day for the cooperative. Thus, a de facto mixed cooperative existed. Ministry of Agriculture officials in Lambayeque were still intent upon imposing the production cooperative model.

In Montesecco the residents support the formation of a production cooperative. Very few workers have cultivated coffee independently, and they do not see parcelization of the estate and individual cultivation as a feasible alternative to the constitution of a production cooperative.

4. Changes in Income, Employment, and Social Structure

a. Income. Tables 11, 12, and 13 present income data for Pomalca, Espinal, Montesecco, and Udima for 1969 and 1972. These figures show that prior to the agrarian reform cash incomes were significantly higher in Pomalca than in the other haciendas.³⁰ Since 1969 incomes have risen substantially in Pomalca and Udima. Data not included in this table indicate that incomes have also risen substantially in Espinal as a result of the elimination of rental payments. In Montesecco, however, real incomes have remained constant or have fallen.

Within each cooperative there has been a tendency for incomes to level. Shortly after the expropriation of the sugar complexes, technicians granted themselves massive salary increases. Later a number of these technicians left Pomalca, causing the average income to fall again. More importantly, since the constitution of the cooperatives, laborers have flexed their collective muscles, and demanded even greater relative pay increases (including subsidized rations, medicine, and housing improvements). The intermediate-level field, factory, and office employees--an amorphous and numerically weak group--have lost income relative to both the technicians and the laborers.

Between cooperatives, pay has varied according to the profitability of each enterprise. In Pomalca, hacienda profits were high, and a substantial dividendo de expropiación (expropriation dividend) was available for distribution among workers and between the workers and the State. Montesecco, on the other hand, was bankrupt and cooperativization has produced no increase in incomes. The workers realize this and many are abandoning the place. It is almost certain that wages will fall over time in real terms, and that social services (housing, medicine, rations), will degenerate. Since rents have been abolished in Espinal and Udima, real wages have risen in these estates. However, Udima's economy has long been subsidized by VPH (on a modest but real scale) and it is doubtful that the Agricultural Development Bank will continue this policy indefinitely. Thus, wages are not likely to rise above the legal minimum in this estate.

³⁰Table 12 shows that full-time workers in Pomalca earn 86 soles per day whereas temporary workers earn 51. Above the cash wage, full-time workers receive health care, education for their children, free housing, electricity, subsidized food rations, year-end profits, and severance pay.

Table 11. Basic Data on the Four Estates

| Estate | Area | | Population | Labor Force | Net Worth, | Net Profits, |
|-----------|------------------------------|--------|------------|-------------|-------------------|------------------------------|
| | Total Crops (in hectares) | | | | 1969 thousands | 1965-69 of Peruvian soles |
| Pomalca | 16,796 | 11,320 | 23,230 | 3,249 | 612,726 | 25,500 |
| Udima | 39,500 | - | 3,190 | 505 | 50,000 | - 96 |
| Monteseco | 8,212 | 621 | 1,153 | 163 | n.a. | -309 |
| Espinal | 1,960 | 850 | 1,398 | 410 | 1,900 | -739 |
| Total | 66,468 | - | 28,971 | 4,327 | - | 24,356 |

*Exchange rate approx. 44 Peruvian soles per U.S. dollar.

Source: The data are derived from estate and Ministry of Agriculture records.

Table 12. Income Data (in current Peruvian soles)*

| Estate | Labor Category | Number | 1969 | | 1972 | |
|-----------|---------------------|--------|----------------|-----------------|----------------|-----------------|
| | | | Daily Earnings | Yearly Earnings | Daily Earnings | Yearly Earnings |
| Pomalca | -owners | 5 | 5,906 | 2,155,747 | - | - |
| | -technicians | 30 | 476 | 173,710 | 639 | 233,312 |
| | -employees | 354 | 100 | 36,653 | 128 | 46,820 |
| | -full-time laborers | 2,854 | 52 | 16,341 | 86 | 28,722 |
| | -temporary laborers | - | - | - | 51 | - |
| Udima | -temporary laborers | 470 | 26 | 2,258 | - | 4,000** |
| Monteseco | -temporary laborers | 156 | 17 | 751 | - | ** |
| Espinal | -full-time laborers | 386 | 25 | 4,331 | - | ** |

Source: Estate accounts

*The cost of living for low income families in Chiclayo increased by approximately 36 over the same period.

**Precise data for all these estates is unavailable, but it is known that wage increases have been negligible. The marked increase in earnings registered for Udima is the result of an elimination of obligatory rental payments for pasturelands used by the colonos of this Hacienda.

Table 13. Value of Services Provided to Workers Without Charge in Pomalca, 1968 and 1970, in Current Peruvian soles.*

| | 1968 | 1970 |
|-------------|------------------------------------|-----------------|
| | <u>Thousands of Peruvian Soles</u> | |
| Health | 7,995 | 14,040 |
| Education | 2,840 | 4,358 |
| Housing | 6,410 | 19,145 |
| Electricity | 3,129 | 2,929 |
| Foodstuffs | <u>23,686</u> | <u>31,962</u> |
| Total | <u>44,060**</u> | <u>72,434**</u> |

Source: Accounts of Pomalca

*Precise data are unavailable for Udima, Monteseco, and Espinal, but it is known that the provision of these services has remained constant or declined over the period 1968-1970. The cost of living for low income families in Chiclayo increased by 29% over this period.

**Percentage increase = 64%. The total value of wages and salaries in 1968 = 54,512,000 soles.

Agrarian reform officials view the separation of Udima, Monteseo, and Espinal from Pomalca as a very positive step, reducing the dependence of the former three estates upon the latter. The residents of these three haciendas are not so positive, however. Their primary concern is with meeting the bi-monthly payrolls and they find negotiation with the Agricultural Development Bank at least as frustrating as their earlier encounters with VPH.

b. Employment. Prior to the agrarian reform, the increasing burden of social legislation and the threat of agrarian reform motivated VPH to restrict the size of each hacienda's permanent labor force and to increase mechanization and use of transient labor. In the new cooperative regime, these trends continue.

Cooperative members must, by law, contribute capital to their cooperative. Workers who became members at the time of the agrarian reform were full-time workers (Pomalca and Monteseo) or colonos in possession of plots of land (Udima and Espinal). The capital contribution of each cooperative member was the amount of severance pay owed him by VPH. Once the number of founding members is determined, cooperative membership can be altered only by the withdrawal of old members or by a complex process of calificación de socios nuevos (selection of new members). The marginal or additional cost to the cooperative of each new member is quite high, since each must receive a house, free medical care for himself and all his dependent relatives, free education for his children, a higher rate of pay in cash, a subsidized food ration, and a share in the cooperative's year-end earnings. In addition, each new member must make an acceptable capital contribution. As can be imagined, these factors strongly discourage the entrance of new members.

In the sugar haciendas, some jobs, particularly cane cutting, are despised by resident laborers; labor contracted outside the hacienda has long been employed for these tasks. The tendency is to rely increasingly on outside labor for cane cutting. In Tumán, by 1972 cane cutting was done entirely by outside laborers not receiving the benefits of cooperative membership.

In Udima, outside labor has not been contracted since the mid-1950s. As pointed out in Part IV above, labor saving has been a central goal of the hacienda administration in recent years. Since the separation of Udima from Pomalca, the former estate has come to rely upon Peru's Agricultural Development Bank for both short- and long-term credit. The Bank, like VPH, expects return on its money, and bank officials stress the economization of labor just as did the administrators of VPH.

Employment prospects in Monteseo are more dismal than in any other of the haciendas studied. It seems doubtful that coffee can regain the status of a profitable crop. Both Ministry of Agriculture and Bank officials see the replacement of coffee with natural pastures as the logical solution to the estate's financial crisis. This "extensification" of production would cut employment to a fraction of its current level.

In Espinal, the transition from peasant or colono production to collective production would reduce employment for several reasons. In the first place the cooperative could not "afford" to cultivate marginal lands now cultivated by colonos. In the second place, collective production would almost certainly result in a reduction in the amount of "leisure time" that residents allocate to cultivation. In order to "demonstrate" economies of scale to the peasantry, Ministry of Agriculture officials would be likely to promote mechanization.

Technicians in Lambayeque's Ministry of Agriculture office currently advocate mechanization and a shift from rice to sugar cane as complements to collectivization in Espinal. Given Peru's current "economic surplus" of rice production this makes good sense to economists steeped in the neoclassical tradition. But given current dietary standards and the mass of unemployed labor in Peru it makes little sense on social account.

To the extent that "cooperative labor" is more expensive than "outside labor" (and increasingly so) it is likely that the number of cooperative members will fall (through death and retirement) while the ratios of outside labor to cooperative labor and capital to labor rise. In Pomalca cooperative members now earn something like four times the wages of laborers contracted by the day.

c. Social Structure. To date, the social structure of the estates under study have changed relatively little. Within the operational organization the principal strata continue to exist. Moreover the same individuals continue to occupy many of the same positions. The stratification of population according to income, wealth, and educational criteria remains roughly the same as before (although there is a leveling tendency). The principal changes in the social structure are the following: (1) members of the "management" are now employees and representatives of the worker-members; (2) a few laborers and employees now occupy positions in the cooperative councils which allow them to exercise power over individuals of much higher rank in the operational organization; (3) since all cooperative members (including high-level technicians and administrative personnel) are subject to censuring by the workers' councils, and employees no longer are assured the backing of the owners, employees have been forced to temper their exercise of power within the operational organization and in their informal contacts with hacienda residents. The most abusive and hated employees have left the coops and the individuals who now occupy their positions in the operational organization are typically better qualified technically. The emphasis placed by the hacienda on coercive control of the labor force is replaced in the cooperative by an emphasis on mutual respect and self-discipline.

To date, production in Espinal and Udimá has not been collectivized. The "demesne production" of the hacienda has been continued by the cooperative, and peasant production continues as before. If cooperative legislation is enforced and all production is collectivized, major changes will occur in the operational organization. In Udimá, crops are now produced exclusively by the individual hacienda residents.

For crop production to be collectivized the present operational organization would have to be expanded and a system of work teams created for field work. Storage facilities would need to be constructed, and systems of accounting and control devised. In Espinal the collectivization of production would be considerably simpler for three reasons: (1) the hacienda is physically smaller; (2) natural conditions are less variable; (3) colonos now produce the same product as the hacienda using roughly the same methods. Thus, an expansion of the administrative organization would be required, but very few qualitative changes would need occur. If collectivization in Espinal is accompanied by mechanization and a shift to sugar cane cultivation, as currently proposed, cooperative members would need to be retrained and technicians would have to be contracted (probably on a part-time basis).

All changes in the planning and operational organization will influence the social stratification of the cooperatives under study. The persons most able to adapt to change and to take advantage of new opportunities are those who occupied positions near, but not necessarily at, the top of the planning and operational organizations in the ex-hacienda.

Part V. SUMMARY, CONCLUSIONS, AND AN ANALYSIS
OF ALTERNATIVE FORMS OF RURAL COOPERATIVIZATION

A. Latifundist Agriculture Prior to the Agrarian Reform

My analysis of latifundist agriculture indicates that historically the haciendas of the Lambayeque Valley have functioned primarily as profit-oriented businesses. An adequate explanation of "traditional" or "semi-feudal" latifundism in the region need not rely upon the assumption of non-maximizing behavior nor upon any so-called "Latin" or "non-Western" attitudes or culture traits. These assumptions, in fact, confuse the issue and divert attention from more fundamental causes of latifundist organization--natural conditions, technology, and social institutions.

Until the latter half of the nineteenth century, production and transport systems were primitive, and external markets for Lambayeque's products were limited. Large estates produced primarily livestock and derived products. Most field crops were produced by household units (colonos and freeholders) and were consumed locally. Sugar cane was the principal crop cultivated and processed on a large scale. The bulk of labor for sugar production was provided by African slaves.

The expansion of European markets for sugar, and the development of steam (later electrical and diesel) technology revolutionized sugar production on the coast. Production expanded most rapidly in the coastal valleys most easily irrigated and suited to large-scale field production and where haciendas controlled the bulk of cropland and water rights. The Chicama Valley provides the most striking example of coastal latifundist growth and of profound social and economic transformation. In other coastal valleys (e.g., Lambayeque, Zaña, and Paramonga) sugar production grew less rapidly, and in still others (e.g., Piura, Lima, and Ica) sugar production declined and disappeared entirely.

Although it would be risky to generalize to the whole of Peru (especially to the Central and Southern Highlands) it is safe to say that on the coast production patterns and the social organization of large estates are determined primarily by ecological and technological conditions, by legislation, and by market forces.

Of all crops produced on Peru's north coast sugar is the most subject to economies of scale. Rice and cotton are produced on smaller latifundia and by smallholders. Where labor is readily available and terrain is regular these two crops are generally produced on wage-labor estates. In the upper reaches and along the peripheries of coastal valleys rice is grown by smallholders, sharecroppers, and labor-tenants.

Of the four haciendas studied in depth, Udimá and Espinal represent the "traditional, semi-feudal" type discussed at length by students of agrarian problems.¹ Pomalca is typical of the "modern, efficient plantation." Monteseo represents the "decadent, bankrupt plantation."

These "types" of latifundia are not static forms of agricultural organization determined primarily by natural conditions or by culture. Both production patterns and hacienda organization have changed over time, and a close relation has existed between changes in production and organization. There has been no simple trend from "pre-capitalistic production systems (labor tenancy and sharecropping) to "capitalistic" systems (wage labor). Changes in technology, market conditions, and social and agrarian legislation motivated changes in hacienda organization which would not have been predicted by a simple evolutionary model of agrarian history, such as that presented by Carlos Malpica.²

In both Udimá and Monteseo the wage-labor (demesne) sector grew relative to peasant production in the 1940s, but more recently the balance has shifted in favor of peasant production.

Agricultural production processes differ from industrial processes in that the former rely to a much greater extent on variable, unpredictable climate, land (which implies movements of men and machines, and thus problems of management and control of the labor force), and cyclical biological processes. Economies of scale are relatively unimportant in agriculture except where natural conditions are predictable and relatively invariant (or controlled technologically)³ and where natural conditions and biological processes allow heavy mechanization. Economies of scale are greatest where the above conditions are met and where the final product is perishable and must be delivered to a large-scale processing plant.

As Kanel has pointed out in two recent papers,⁴ latifundia have often come into existence for reasons having little to do with the economic

¹See articles by A. Pearse, S. Barraclough and A. Domike, and T. Carroll in Stavenhagen, ed., Agrarian Problems; Ernest Feder, The Rape of the Peasantry: Latin America's Landholding System (Garden City, New York, 1971); and Doreen Warriner, Land Reform in Principle and Practice (Oxford, 1969).

²Carlos Malpica, "El problema de la tierra."

³Technological control over the natural environment is nearly complete in, e.g., greenhouse cultivation, egg and broiler "factories," and beef and pork feedlots.

⁴"The Role of Land Tenure in the Modernization of Agriculture," prepared for Purdue Workshop on Small Farm Agriculture, November 13-15, 1972; and "Participation in Agricultural Development," prepared at the request of the International Bank for Reconstruction and Development, April 6, 1973, Land Tenure Center, University of Wisconsin, Madison.

viability of different sizes of farm (e.g., conquest or political domination). They survive and often have a competitive edge over small-scale farmers due to their control of, or easy access to, institutions and facilities complementary to field or livestock production. Kanel emphasizes what may be termed the "economic infrastructure"--markets, processing facilities, credit, and transport. But the "social infrastructure"--particularly education and the flow of technical and market information--is also clearly of importance. Wherever latifundia dominate the agrarian structure, latifundists monopolize access to both types of infrastructure. Minifundists (especially hacienda sharecroppers and labor-tenants) not only lack the physical and financial inputs for agriculture, they often lack the knowledge necessary for implementing technical innovations. And, as Doving has noted, where agriculture is divided between a few wealthy landowners and a mass of impoverished smallholders and tenants, both tend to lack the motivation for saving and investment.⁵

Economies of scale in agriculture are much more likely to exist at service, processing, and marketing stages than at the point of field production. Thus, as a rule latifundia cultivation has been organized around small-scale, often family, units. Where small-scale agriculture prospers (much of Europe and the United States) social and economic infrastructure is supplied by the state, cooperatives, and/or independent private firms.

The following generalities can be made from the analysis of production and organizational changes on the haciendas of VPH: (1) As technological development allows greater control over the natural environment and generates important economies to scale, we can expect a tendency away from labor-tenancy and sharecropping, toward wage-labor latifundism. (2) Where technological progress increases productivity, and social legislation holds share rents at a constant fraction of total production, we can also expect a tendency toward wage labor. (3) Where social legislation forces latifundists to remunerate labor tenants at the same rate as free laborers, labor tenancy may give way to either sharecropping or wage labor. (4) Where mechanization is a feasible alternative to labor intensive cultivation, unionization should result in an increase in both wages and the use of labor-saving machinery. As the case of Pomalca shows, employment may drop precipitously. Where mechanization is not feasible, unionization will probably result in a reduction in both employment and the intensity of production. As the case of Montesecco shows, real wages may fall despite unionization. (5) Where agrarian legislation threatens the sanctity of private property, sharecroppers and labor-tenants are likely to be uprooted and replaced by wage laborers.

⁵Folke Doving, "Land Reform: Ends and Means--A Background Study to the IBRD Policy Paper on Land Reform," Agriculture Department, University of Illinois (Urbana, March 1973).

Interviews with the owners, managers, and residents of the haciendas of VPH indicate that where natural conditions are highly variable and economies of scale are not present, peasant production is likely to be more productive than demesne production.

In recent years, three of the four principal haciendas of the Piedra family (Espinal, Monteseo, and Udima) have suffered financial crises and general decline. The implementation of social and agrarian legislation has contributed to this collapse, but the absence of labor-saving technological change is equally important. In Pomalca, labor costs have risen most spectacularly, but mechanization and improvements in cultivation, processing, and transport systems have more than offset rising labor costs. It should be noted that Pomalca's rapid capitalization and modernization in the 1960s was not accompanied by marked increases in the volume of production or in yields. Capital and purchased inputs have displaced labor, increasing profits, but increasing immensely the cost of production on social account.

Historically, the brutal exercise of power and corruption have been important features of hacienda life. This derives primarily from the extremely centralized control of resources by latifundists and their employees. On the haciendas of VPH, field employees exercised power over laborers more abusively than did factory employees or the owners themselves. This is due in large part to the organization of latifundist crop and livestock production. Farm work is not machine-paced, and the quality of work may vary considerably. Thus, work discipline requires constant supervision and sanctioning by field bosses. Field employees operate more independently than do factory foremen and have greater control over hacienda resources. Consequently they are better able and more likely to utilize resources for their personal gain than are factory employees. Many uses of hacienda resources which are now viewed as corrupt were originally considered legitimate forms of payment.

In the sugar estates, where large masses of workers reside and labor unions are affiliated with national political parties, unionization has led to substantial pay increases and marked improvements in labor-management relations. In other haciendas, unions have been weaker and the gains from unionization less striking.

B. "Haciendas sin Hacendados": Agrarian Reform and Collectivization

Until the early 1960s many workers in Pomalca, Saltur, Sipan, and Pampa Grande tilled small plots on the margin of the cane fields. Fearing the expropriation of these plots under the 1964 agrarian reform VPH attempted to repossess these lands (not always successfully). In Espinal, VPH attempted to expel the colonos who applied to ONRA as potential agrarian reform beneficiaries. Later the hacienda seeded sugar cane in a section of this estate so that it would be exempt under the 1964 law as part of an "agro-industrial complex." Monteseo was separated from Udima and Espinal in order to avoid its affectation. Later Udima and Espinal were fused with Pomalca for the same purpose.

In sharp contrast to earlier legislation the 1969 agrarian reform law has been implemented with great speed and has directly affected the coastal agro-industrial complexes. The entire VPH complex was affected under the law, and independent production cooperatives have been established in Pomalca, Espinal, Udima, and Monteseco. Organizational changes within each section may be analyzed at two levels: (1) "production planning"; (2) "operational." External to the cooperatives, agrarian reform policy has resulted in changes in the "social and economic infrastructures."

To date, the greatest changes have occurred in the spheres of production planning and infrastructure. The functions performed by VPH's board of directors, high level administrators, and consultants have been assumed by the Delegates' Assembly and Administrative Council of each cooperative, and by technicians in a number of public offices and higher-level cooperative institutions. In the special case of Pomalca the CECOAAP has come to play a central role in planning production. In Monteseco, Udima, and Espinal the Ministry of Agriculture and the Agricultural Development Bank have assumed much responsibility for these functions.

The elected workers' representatives who sit on the Cooperative Assembly, Councils, and Committees perform important, but limited, functions. Plans for production and investment are drawn up and submitted by technicians (often not members of the cooperatives), and most cooperative members and their representatives have little basis on which to evaluate these plans. Cooperative bodies may discuss and debate them at great length, but make little contribution to their final form.

Cooperative bodies are more concerned with legislating and enforcing rules of cooperative discipline, determining the mix of income paid to members (cash, subsidized rations, housing, medicine, etc.), and determining the distribution of total income, than they are with more technical matters of production planning and investment. Since investment and production plans are determined elsewhere, as are tax and agrarian reform debt repayment schedules), the total net income payable to cooperative members is largely outside the control of the Cooperative Assembly and Councils.

Within the estates under investigation, the organization of work has changed very little. Where wage labor was employed by VPH it continues in the cooperative. Resident laborers have become cooperative members, and formally, the wages paid to members are considered "advances on cooperative earnings." In December of each year the difference between "advanced earnings" and "total earnings" is shared equally by members. To most members, however, the "advances" are considered wages and year-end earnings are considered bonuses.⁶

⁶The strike in Pomalca discussed in Part IV, footnote 22 *infra* indicates that year-end profits can become highly volatile issues.

By law, all productive assets of a production cooperative must be utilized collectively; no individual or "peasant" production can be carried out. This production organization corresponds closely to the pre-reform organizations of Pomalca and Monteseco, but does not correspond to the existing organizations of Udima and Espinal. Officials from the Ministry of Agriculture have insisted that production cooperatives be established in these estates, but the residents resist. In Udima, a workable solution has been found whereby the residents continue to cultivate and graze individually, and operate the lands of the ex-hacienda collectively. (This is clearly an extra-legal solution.) In Espinal, the situation is very critical since Ministry officials insist upon de facto collectivization of production while the residents refuse to give up their lands. The colonos of Espinal present the following arguments: (1) They fought VPH for rights to their plots, were granted provisional titles by the Velasco government, and were promised definitive titles. (2) The law No. 17716 guarantees them their lands as "feudatarios."⁷(3) Individual production is more productive than collective production. (4) There is no assurance that the cooperative will prove viable. (They cite cases where cooperative officials have embezzled funds and run.) (5) Bureaucrats and technicians in the Ministry of Agriculture impose the production cooperative model (against the wishes of President Velasco) in order to provide lucrative employment for themselves and their cohorts. (6) The cooperative may be unable to meet the payment schedule for the agrarian debt, and thus fall under the control of the state.

There has been a tendency for the income distribution to level within each of the cooperatives studied, but for income levels to diverge between cooperatives. Pomalca paid the highest cash wages prior to the agrarian reform of any of the VPH haciendas. Since profits were also highest in Pomalca, wages could increase most in Pomalca after expropriation. In Monteseco wages were low and profits nonexistent. Thus wages have not risen.

In the future, the income of cooperative members will depend upon trends in productivity and prices, and upon the burden of taxes and debt repayment. Given historical trends in these variables it is probable that coastal cooperativists will become progressively richer relative to their highland counterparts, especially if the organization of production and the criteria for production planning and investment do not change.

⁷This is clearly stated in government propaganda aimed at the peasantry, such as the leaflet entitled, "A los yanacunas, aparceros, arrendires, allegados, colonos, mejoreros, precarios, huaechilleros, así como a los demás tipos de feudatarios y los pequeños arrendatarios y sub-arrendatarios," distributed by Peru's Dirección de Promoción de la Reforma Agraria (Lima, n.d.).

The organization of production has important repercussions on the use of land, labor, machinery, and yield-increasing inputs, and on the consequent levels of employment, production, income, saving, and investment. Small farmers--owners or tenants with secure tenure (especially those paying fixed rent)--cultivate more intensively and employ more labor and less machinery than large farmers. Where economic and service infrastructures serve them well, small farmers utilize yield-increasing inputs at least as efficiently as large farmers.⁸ Consequently, an agriculture based on self-employed cultivators will produce more and provide more employment than would an agriculture dominated by large estates. Assuming similar natural conditions, market forces, and management, latifundia employing "pre-capitalistic" work systems--tenant laborers or sharecroppers--should provide employment for more people than would wage-labor estates. They should also produce more, in terms of the total value of product per hectare. The principal reason why wage-labor latifundism is, in fact, generally more productive than pre-capitalistic latifundism is the following: where natural conditions and the economic infrastructure make large-scale agriculture most productive and profitable (on the coast and near important highland markets) social conditions (absence of a lettered peasantry, population growth, threat of agrarian reform) motivate latifundists to replace labor-tenants and sharecroppers with wage laborers (temporary workers if possible).

The above analysis of farm size and organization can also be applied to post-reform agriculture and the economic performance of production cooperatives.

It is not true that with the transformation of latifundia into production cooperatives, "only the patrón has changed." Great changes are occurring, especially in the social sphere. Within cooperatives, incomes are leveling and the mix of "individual" and "social" consumption is changing, in favor of the latter. Increased medical and educational expenditures make obvious contributions to the welfare and productivity of cooperative members. Labor-management relations have improved "100 percent,"⁹ and social and occupational mobility has accelerated. But in many ways the production cooperative remains "an hacienda without an hacendado"; the criteria for production planning and the operational organization of estates have remained largely the same.

In our analysis of the economics of latifundism, profit maximization was isolated as the single most important management

⁸The rapid productivity growth of the small farm sector in post-revolutionary Mexico demonstrates the potential of the peasantry. See Folke Dövring, "Land Reform and Productivity in Mexico," Land Economics 46, 3 (August 1970).

⁹Interview: Elviro Celis (Pomalca) 24 December 1971.

concern.¹⁰ In the cooperative, maximization of net income per worker replaces the profit motive, but since the membership of each cooperative is fixed, these two amount to the same thing.

In bankrupt estates, such as Udima and Monteseo, the Agricultural Development Bank has taken over the planning of production, and is likely to retain administrative control indefinitely.¹¹ The Bank's criterion for lending is less flexible than was the Piedras'. VPH subsidized Udima and Monteseo in order to maintain social tranquility and some semblance of "business as usual." The Bank's performance to date indicates that "rate of return" will be its sole criterion for lending to these estates. "Development" will be promoted only in financially liquid cooperatives.

In Pomalca and Espinal much of the production planning will be determined by officials in the CECOAAP; the criteria for their decisions will be much the same as the criteria employed by VPH. Where cooperative members participate in planning, they too will be concerned primarily with the maximization of net earnings. The principal deviation from this criterion comes from the fact that cooperative members, in their dual role as owners and workers, are likely to substitute some of their increased income for leisure time, working less, mechanizing, and hiring part-time labor from outside the cooperative. Since entry into the cooperatives is discouraged by capital requirements and complex qualification procedures, membership will fall over time. As Jaroslav Vanek has noted, these trends, if carried far enough, would result in a cooperative with two members, a manager and a janitor, the work being done by machinery and by "second class workers" hired outside the cooperative and not sharing in cooperative income or benefits.¹²

Two central conclusions of this research are the following: (1) radically different organizational forms were consistent with the single latifundist objective--profit maximization; (2) historical changes in the organization of the latifundia under study can be understood as consequences of changing conditions affecting profitability (primarily changing technology, markets, and legislation).

¹⁰As Juan Martinez-Alier has pointed out, concerns over land expropriation complicate this issue, since certain production systems, e.g., yanaconaje, may be highly profitable, but increase the risk of expropriation. See his book, Labourers and Landowners in Southern Spain, St. Antony's College, Oxford, Publication no. 4 (London, 1971), Chapters 7 and 8.

¹¹This is especially true since bankrupt estates will not be able to meet the repayment schedules for land and capital assets adjudicated under the agrarian reform program.

¹²Vanek noted this hypothetical case in his class on "labor-managed market economies" at Cornell University, November 1969.

This research supports the conclusions of Dorner, Kanel, Dovring and others that: (1) small-scale agriculture is generally superior to large-scale agriculture in terms of value of output per hectare;¹³ (2) in labor-surplus economies, large-scale, capital-intensive agriculture is more costly than small-scale agriculture because it replaces labor with capital equipment needed for growth of production and employment in other sectors of the economy.¹⁴ As the case of Pomalca shows, "modernization" of latifundist production can displace labor on a massive scale without increasing production.

Two conclusions should not be drawn from this research: (1) that by maximizing profits, VPH maximized the social product of its estates; (2) that all Peruvian latifundists were as profit-oriented as the managers of VPH.

Peruvian businessmen have long defended progressive latifundist agriculture on the grounds that by maximizing private profit the latifundia also maximizes a number of other "social" variables, such as: (1) total production and marketing; (2) employment and income; (3) savings and investment; (4) foreign exchange earnings; and (5) general economic development. Odd as it may seem, it has also been argued that the modern latifundia contributed substantially to the social advancement of the rural population.¹⁵

My own analysis, and the works of several other students of agrarian systems, indicate that each of these contentions is false.

The latifundia, by maximizing profits and employing labor up to the point where labor's marginal value product equals the going wage rate, falls short of maximizing total product. The hacienda does not produce the most intensive possible mix of crops and livestock. It will produce wheat, for example, where cotton could be grown. The hacendado will not intensify the production of a given crop or livestock to the same extent as would a family farmer. The hacendado will not invest labor time in land improvements that a family farmer would execute. The hacendado will leave marginal land idle that a family farmer would bring under cultivation.

¹³Don Kanel, "Size of Farm and Economic Development"; Peter Dorner and Don Kanel, "The Economic Case for Land Reform," Land Reform in Latin America: Issues and Cases, ed. Peter Dorner (Madison, 1971); and Ram A. Dayal and Charles Elliott, Land Tenure, Land Concentration, and Agricultural Output (UNRISD, Geneva, 1966).

¹⁴Dovring, "Land Reform and Productivity in Mexico," pp. 272-274; and "Land Reform: Ends and Means," section 2.

¹⁵This latter point is expressed in the article by Gerardo Klinge entitled, "La agricultura de la costa y la situación alimenticia," pp. 72-73.

Historically, progressive latifundists have innovated before most small farmers in their region, but as Kanel has shown¹⁶ this is generally the result of a monopolization of service institutions by latifundists, not a distinct advantage of large-scale production. In Europe, the most progressive farming areas (e.g., Denmark and the Netherlands) are areas of small-scale farming. The most productive cash-grain and hog farms of the midwestern U.S. employ two to three men.¹⁷ In Latin America it is the latifundio-minifundio landholding system which has produced a poor and backward mass of small farmers.

Data presented by Dorner and Kanel and by Dayal and Elliott demonstrate conclusively that agricultural production correlates negatively to farm size.¹⁸

Contrary to a widely held view, small holdings need not be regarded as one of the main obstacles to rapid agricultural development. . . In all developing countries examined, crop yields as well as the number/output of livestock per unit of land increase with a decrease in the size of holdings right down to very small sizes.¹⁹

Data cited by Professor Dovring indicate that due to the productivity advantages of small farms and the low income elasticity of demand for food, marketing from small farmers should equal or exceed the marketing of large farms, despite the larger population maintained on the former.²⁰

Peru's sugar producers often noted the importance of their enterprises for generating local employment and income. The data in Table 3 show that since 1960 employment fell drastically on Pomalca. This was true of all the coastal sugar estates. A shrinking number of laborers shared as very minor partners in the modernization of latifundist production. A growing proportion of the rural population became unemployed and impoverished in the process.

¹⁶See papers cited in Part V, footnote 4 infra.

¹⁷Based on a study of Illinois farms, by Roy N. Van Arsdall and William A. Elder, "Economies of Size of Illinois Cash-Grain and Hog Farms," University of Illinois, College of Agriculture, Agricultural Experiment Station Bulletin 733 (Urbana, February 1969).

¹⁸See works cited in Part V, footnote 13 infra.

¹⁹Dayal and Elliott, Land Tenure, Land Concentration, p. 54.

²⁰Dovring, "Land Reform: Ends and Means," pp. 10 and 27-29; and "Land Reform and Productivity in Mexico," pp. 272-274.

It is often assumed that high-income earners save and invest a large part of their incomes. Historically the savings and investment of entrepreneurial groups did promote economic growth in Europe and North America. But Latin American latifundists have been notoriously prone to consume rather than accumulate wealth.²¹ In agriculture, unlike other sectors of the economy, important investments can be made through the investment of otherwise unemployable labor time. Where sharecroppers and tenant-laborers feel secure in the occupancy of land, they can be expected to contribute to capital formation in this way. Where social and agrarian legislation upset the traditional social relations, raising labor costs and reducing the security of tenure, investment, by both the latifundist and his tenants, can be expected to fall. Employment data from Espinal and Udimá in the 1960s illustrate this point (see again Tables 4 and 6). As argued above, wage labor latifundism also hampers capital formation since the latifundist uses labor only up to the point where the marginal revenue product of labor equals the market wage rates.²²

One of the most common arguments used by defenders of the sugar industry in the Peruvian Senate was that this industry provided necessary foreign exchange for the country's economy. That sugar earned foreign exchange cannot be denied. But neither can it be denied that the bulk of this currency was used to import labor-displacing machinery, to finance the ostentatious consumption and travel of the "sugar barons," and to transfer profits out of Peru. Had a larger share of total earnings gone to labor, foreign exchange for consumption would have been saved and domestic production of "light" consumer goods stimulated.

The argument that progressive latifundism contributed to general economic development is seriously called into question by the above discussion. However, additional arguments may be added. We have shown that even if latifundists are businessmen seeking maximum profits on their haciendas, they will employ less labor and more machinery, and farm their lands less intensively than would family farmers. To the extent that latifundists do not seek to maximize profits, our condemnation of latifundist agriculture must be more severe. In recent years, latifundist agriculture in the Lambayeque Valley has been relatively profitable. This has not been the case in much of the highlands. Since the marginal gain in profit from active management was likely to be small (as in Udimá) we could expect the management of latifundia in these areas to be

²¹Marvin Sternberg, "Chilean Land Tenure and Land Reform" (Ph.D. Dissertation, University of California, Berkeley, 1962).

²²The calculation of labor's marginal revenue product (MRPL) requires an estimation of the time horizon--the period over which the capital or improvements produced by labor will generate pecuniary returns to the firm. The threat of agrarian reform lowers the calculated MRPL. See Part V, footnote 10 infra.

relatively lax and conservative. Once management becomes lax, innovation may be expected to lag and production methods to become "customary." In the case of the hacienda Vicos, owned by the Public Benefit Society of Huaraz and managed by a tenant at the time of the Peru-Cornell Project, it was found that relatively minor changes in technique could increase production markedly.²³ This is probably true in many backward parts of the sierra.

Several factors, such as lack of transport and markets, and inherently poor natural conditions, cause latifundist production to be unprofitable in much of the sierra. The breakdown of traditional social organization in the highlands is also important. In the past, when rural people were immobile and dependent upon the hacienda for their means of subsistence, stable "patron-client" relations provided the basis for the hacienda's social system. The authority of the hacendado and his representatives was unquestioned; theft and corruption were uncommon, and work discipline was maintained with much less vigilance and control than is necessary today; workers could not afford the risks of indiscipline. As transportation improved and migration opened alternatives for rural people, the hacienda administration's authority has eroded and discipline has become increasingly difficult to maintain. Today, theft and misuse of hacienda resources is common--a fact which lowers the profitability of traditional latifundist production and encourages mechanization and the expulsion of labor. Where the substitution of capital for labor is not possible, and/or where agrarian reform threatens the property rights profitability can be expected to fall and management can be expected to degenerate.

Sharecropping and labor-tenancy should not be considered necessarily inconsistent with the goal of profit maximization. As Ricardo de la Piedra stated in an interview:

In Udimá the people were many and the cattle were few. We attempted to modernize the hacienda and searched for means of increasing its productivity, but without great success. . . We tried to get the people to work in Monteseco but they would not budge from the hacienda . . . What were we to do? . . . We had to make the best of a bad situation.²⁴

The crisis of rural Peru, characterized by sharp social conflicts, low levels of productivity, slow agricultural growth, rural

²³This aspect of the Vicos project is reported by Allan Holmberg in "Land Tenure and Planned Social Change: A Case from Vicos, Peru," Human Organization 18, 1 (Spring 1959).

²⁴Interview: Ricardo de la Piedra K. (Lima) 28 May 1972.

poverty, and massive out-migration, can be attributed to the country's latifundist-dominated agrarian structure. In an earlier time, when technological change was slow, markets were local, and social controls were based upon stable relationships between patrons and clients, the inefficiencies of latifundist production were less glaring than they now are. But the hacienda impedes progress in several ways. For numerous reasons mechanization is not possible in most haciendas, and where it is feasible it usually displaces labor and thus raises the social cost of production. Equally serious are the increasing antagonisms between the hacienda administration, hacienda residents, and the hacienda's neighbors. As the hacienda population grows, the volume of production necessary to feed the population increases. Moreover, as rural areas become increasingly integrated into the national society and economy, the residents' demands for better housing, education, medicine, etc. increase. In the words of Udima's administrator: "The hacienda becomes less a business and more a charitable institution. If a man is ill you must provide his family with assistance. If he dies you must bury him. If he leaves children you must educate them."²⁵

In some cases, productivity-increasing technology can be most effectively introduced by latifundists directly, through a centrally administered organization. However, hacienda modernization--the expulsion of residents, imposition of wage-labor and centralization of management--may also raise profits by maintaining or lowering production and reducing the labor force even more. As Professor A. Martinez-Alier points out, the expulsion of labor is often not a durable solution to the hacienda's "social problem." Asedio interno is replaced by asedio externo.²⁶ In Peru, it was the "marginalized" highland population that made agrarian reform such a burning issue in the early 1960s, and that may do so again in the future.²⁷

²⁵Interview: Carlos Ramirez (Udima) 3 November 1971.

²⁶Juan Martinez-Alier, "Relations of Production in Andean Haciendas: Peru," paper presented at Symposium on Landlord and Peasant in Latin America and the Caribbean (Cambridge, December 1972). Martinez cites Rafael Barón's use of these terms in the CIDA Report on Ecuador.

²⁷The marginal rural population in Mexico continues to demand land redistribution. See César Velazques Robles y Rubén Burgas Mejía, "La crisis de la reforma agraria: Invasiones de latifundios en Sinaloa," Oposición 4, 54 (supplement May 1973), pp. v-viii.

C. The Prospects for Collective Agriculture

Several economists and sociologists have made careful analyses of rural production cooperatives or "collective farms" as they are often termed.²⁸ From their work it may be concluded that four principal factors influence the viability and economic performance of these institutions:

- (1) Whether association is voluntary or compulsory;
- (2) Ideological commitment on the part of members;
- (3) Economies of scale;
- (4) Political support or political pressure.

In his analyses of the collective ejido in Mexico, Shlomo Eckstein emphasizes the third and fourth factors. Folke Doving and Boguslaw Galeski emphasize the first and second.²⁹

Galeski's authoritative work indicates that collective farms are generally transitional, rather than permanent, institutions.

Collective farms have existed or can now be found in many countries--especially in Eastern Europe--yet they seldom have proven to be a permanent way of organizing agriculture, and often evolve into other tenure forms or are discontinued a few generations after their creation.³⁰

²⁸This section draws heavily on the following publications: (1) Thomas Carroll, "Peasant Cooperation in Latin America," in A Review of Rural Cooperation in Developing Areas, UNRISD Series: Rural Institutions and Planned Change, vol. 1 (Geneva, 1969); (2) Shlomo Eckstein, "Collective Farming in Mexico," in Stavenhagen, Agrarian Problems; (3) Boguslaw Galeski, "Collective Farms: Their Origins and Future," LTC Newsletter no. 35 (December-March 1971-72); (4) B. Galeski, "Types of Collective Farms in Poland," Two Blades of Grass: Rural Cooperatives in Agricultural Modernization, ed. Peter Worsley (London, 1971); (5) Otto Schiller, Formas de Cooperación e integración en la producción agrícola (Mexico, 1969) (also available in English and German); (6) O. Schiller, "Organization of Rural Cooperation in Developing Countries," Rural Development in a Changing World, ed. Raanan Weitz (Cambridge, 1971).

²⁹See works cited in Part V, footnote 28 above, and Doving, "Land Reform: Ends and Means," pp. 15-16.

³⁰Galeski, "Collective Farms," p. 2.

Galeski has developed a typology of collective farms based on two variables:³¹ (1) the motives for establishing collectives; (2) the social origin of the founding members. Four principal types of collective farms are defined:

- Type I: Collective farms established by beneficiaries of agrarian reform or settlement programs who are unable to operate individual farms, due to economies of scale, lack of farming experience, or lack of economic infrastructure (e.g., Pomalca and Montesecco).
- Type II: Collective farms formed under pressure from the government by peasants who previously operated traditional family farms or plots on latifundia (e.g., Espinal and Udima).
- Type III: Collective farms founded by non-farmers (or less commonly agricultural laborers) and established primarily with ideological objectives (e.g., Israeli kibbutzim).
- Type IV: Collective farms set up by modern farm operators in order to exploit important economies of scale (e.g., the few so-called GAEC in France).

Of these, only the first two types are of importance for our analysis. According to Galeski, in the first type, the division of labor is usually based on social position prior to the agrarian reform. Outside direction by government agencies, banks, etc. replaces the administration of the pre-reform latifundia and compensates for the lack of technical knowledge on the part of cooperative members. There is a secular tendency to equalize pay rates regardless of type of work. Conflicts arise between social groups within the cooperative and between "workers" and "outside managers," and these erode collective spirit and discipline. These farms tend to lose their "cooperative" features and gradually come to resemble "state farms" managed by state employees and paying fixed wages and salaries to members. The most ambitious members and/or their children often abandon the collective. Some leave the rural sector; others ascend into the state bureaucracy.

According to Galeski, peasants collectivized involuntarily typically retain individual garden plots on which cultivation of vegetables and livestock breeding is carried out with high labor intensity. On the cooperative's lands the division of labor reflects the social structure of the former village or latifundia. Technical-administrative personnel come from outside the cooperative. "It depends upon them whether the cooperative will evolve into a large enterprise (usually accompanied by the weakening of the cooperative's self-governing prerogatives) or whether it will

³¹Galeski, "Types of Collective Farm in Poland."

remain in fact an aggregate of peasant family farms."³² Quarrels between families and groups of families, and between members and management are unavoidable. The most capable members often leave the collective, many to farm independently. Without continuing pressure from the authorities the cooperative will fall apart.

Eckstein's analysis of collective farming in Mexico is more concerned with economic aspects of ejido organization and operation than with social forces affecting the viability of collectives.³³ His analysis demonstrates that in Mexico most collectives were established on estates where operations had been centrally managed prior to the agrarian reform and where substantial economies of scale existed--principally in the irrigated cotton and wheat zones of north-western Mexico and on the henequen (sisal) plantations of Yucatán. These estates were worked by wage laborers, not peasant producers, and agrarian reform beneficiaries saw no feasible alternative to collective operation. Collectives have been most successful where economies of scale have been most important, management most capable, and members most committed to collective farming.

As both Galeski and Eckstein note, a fundamental condition for the establishment and viability of collective farms is political support. Without this support potentially viable collectives are not likely to survive. Conversely, under political pressure collective farms can be maintained despite production inefficiencies and the opposition of their members.

In the case of Pomalca, "collectivization" seemed the only viable alternative.³⁴ However, the production cooperative is so large (over 3,000 members living with their families in over a dozen population centers) that establishment and maintenance of a "cooperative spirit" has been a very difficult task. An assumption of Peru's National Office of Cooperative Development (ONDECOOP) was that cooperative work and life would tend to reduce the pronounced individualism of hacienda workers and foster more humane and communal values. The "capacitación" programs of ONDECOOP have stressed the need for workers to adopt attitudes and behavior which correspond to the new cooperative regime, but apparently with little success. A personal communication from Pomalca illustrates this point: "Every day the situation is worse; the members think more and more in terms of money and individualism, and forget entirely about cooperativism."³⁵ As

³²Ibid., p. 288.

³³Eckstein, "Collective Farming in Mexico."

³⁴Nationalization was not seriously considered.

³⁵Personal communication, dated November 1972.

Galeski's analysis indicates, even without wholehearted support from the members, it is unlikely that economically viable cooperatives formed of wage laborers (such as Pomalca) will fragment into independent peasant farms. The likely trend will be in the direction of increasing state control and erosion of cooperative aspects.

In Udimá, collectivization has not occurred and probably will not. Collectivization would require a major effort on the part of the Ministry of Agriculture, and the results are not likely to be positive.

In Espinal, collectivization may result in a violent confrontation between residents and public officials. (Colonos have stated that they will die for their land if necessary.) Professor Dovring has stated that the success of collectivization depends largely upon whether the peasants have "something to prove." If collectivization is forced in Espinal, the peasants will most likely want to prove that it cannot work. Thus productivity may decline not only from a reduction in labor utilized (as indicated in the above analysis of labor use on latifundia) but from a reduction in labor quality and intensity. Mechanization, the "logical" correlate of collectivization,³⁶ will raise the social cost of production. Even if collectivization occurs, residents will surely demand to keep subsistence garden plots. As Galeski has pointed out, these plots tend to expand into "the cooperative's land."³⁷ Thus the production cooperative, which is formally fully collectivized, will most likely be "mixed," with both collective and individual production. Pressure on the part of the state will be necessary to maintain the collective aspects.

Although production in Udimá and Espinal has not been fully collectivized since the agrarian reform, cooperative institutions have been established in these estates to administer production on cooperatively operated lands of the ex-haciendas. In these cases cooperative experience has not been promising. The inherent managerial problems of large-scale agricultural production are compounded by two other "diseconomies" introduced by cooperativism: lack of member support, and the "ambiguity of management."³⁸

The lack of member support is much more pronounced in Espinal than in Udimá since coercion on the part of the state has been exercised more strongly in the former estate. In Udimá, members

³⁶It is not only the peasants who have "something to prove." In order to prove the superiority of large-scale agriculture, proponents of collectivization generally promote mechanization.

³⁷Galeski, "Collective Farms," p. 5.

³⁸Don Kanel, "Cooperative Farming, A Research Program on Organizational Issues," Mimeo., Land Tenure Center (June 1972).

are generally apathetic; in Espinal they are openly hostile.

The ambiguity of management is an inherent problem of cooperation, resulting from the fact that cooperative managers are at the same time "bosses" and "employees" of the member-workers. In Udima an employee stated to me that discipline could no longer be maintained in the estate. If employees forced workers to perform tasks unwillingly or sanctioned them for poor work or for destroying or appropriating cooperative property, they risked censure or expulsion from the cooperative. The following is a direct quotation:

In several parts of the hacienda people have stolen fencing which is property of the cooperative. With the agrarian reform the discipline maintained in the hacienda by force has evaporated, and it has not been replaced with cooperative discipline. Everyone pulls in his own direction . . . What are we to do? If we protest, they call us "new patrones," or "agents of the government."³⁹

The situation of Montesecco is critical not because the workers oppose collectivization, but because the estate is bankrupt, and the labor force is underpaid and demoralized. Whether the coffee business can get to its feet again remains to be seen. Three factors would seem necessary: (1) good management; (2) adequate long-term financing; (3) reestablishment of discipline in field work.

VPH's manager left Montesecco at the end of 1971. He was replaced by a young, inexperienced agronomist who found it nearly impossible to work in the estate and who resigned in early 1973. At this time one of Montesecco's field employees took on the position. This man has many years of experience in the hacienda and although he has no technological training he is clearly the hacienda resident most qualified for the position. Converting the bankrupt hacienda into a viable production cooperative will require both aggressive and enlightened management. It would appear that the new manager's success will depend in large degree upon his access to technical information and advice from outside the estate. Since Montesecco is the only large-scale coffee estate in the area and since the Lambayeque office of the Ministry of Agriculture has no specialists in coffee production, the sources of technical information are limited.

To date the Agriculture Development Bank has restricted both short and long-term financing to Montesecco on the grounds that coffee

³⁹Interview: Alcides Barrantes (Udima) 3 November 1971.

production is no longer viable in the estate. It appears unlikely that Bank policy will change substantially in the future.

As long as the enterprise languishes and pay rates remain constant or decline it will be difficult to reestablish "normal" work schedules in Monteseco. At present cooperative members work half-days or less "in the cooperative," and spend their afternoons and evenings working on private plots and relaxing. A few residents have small herds of cattle. As coffee dies out it is likely that cooperative lands will gradually come under private control. In an interview, the administrator of Monteseco stated to me:

I don't see a way out, a hope for Monteseco.... It is possible that cooperativism cannot function here. The people are very lazy. There isn't confidence in either the administrator or the Administrative Assembly. In the Assembly the person who yells loudest makes the decision....The people aren't working in a "cooperative way"....The agrarian reform functionaries don't want to take risks or differ with anyone, especially with their bosses. So they give us "easy solutions" which are not "real solutions."⁴⁰

From the above discussion it should be clear that collectivization is no panacea for the ills of Peruvian agriculture. For both economic and sociological reasons collectivization can play an important but limited role in the reformed sector. Where economies of scale are important in field production or cattle raising, it is likely that latifundist production was centrally managed prior to the agrarian reform. In such cases agrarian reform beneficiaries can be expected to favor collectivization. Where peasants cultivated or grazed individually prior to the reform they are likely to oppose collectivization.

Given ideal conditions--support on the part of both the government and agrarian reform beneficiaries, a cooperative mystique, and economies of scale--production cooperatives present inherent social and managerial problems which tend to cause them to disintegrate or gradually lose their cooperative features. In cases such as Pomalca, where the production cooperative does function well and benefits from favorable market conditions, the status and well-being of members are greatly enhanced, but the cooperative remains an island of relative prosperity within a poverty-stricken economy. The production cooperative does not help solve the fundamental problems of massive unemployment, capital scarcity, and food shortage for two fundamental reasons: (1) its members and their technical advisors and bankers continue to plan production with an

⁴⁰Interview: Ing. [?] Collasos (Monteseco) 26 October 1971.

eye to maximizing net earnings on private account; (2) the operational organization of the cooperative is essentially that of the ex-hacienda. Intensity of production and labor use remain constant or fall with time. Like the hacienda, the production cooperative hires transient laborers by the day. As incomes level within the cooperative its members become more prosperous relative to the workers and unemployed persons outside its walls.

Where collectivization is imposed on an unwilling peasantry, production cooperatives are likely to function much like the haciendas they replace. In many cases economies of scale are illusory and collectivization will result in a reduction in the intensity of land and labor use. Mechanization, which is fostered by large-scale production and promoted by "agricultural modernizers," will increase the social cost of production often without increasing total productivity. Where production cooperatives are imposed, discipline may be as difficult to maintain or more difficult than it was in the hacienda (especially where peasants see failure of the cooperative as imminent).

Involuntary and unsuccessful collectivization not only depresses agricultural productivity and employment, it injures the prestige of cooperatives as useful forms of peasant association, deepens the gulf between peasants and the public officials who purportedly serve them, and increases the likelihood that socially oriented programs in favor of the peasantry will be abandoned by the government in favor of measures designed more specifically to extract surplus from the peasantry and to promote large-scale private agriculture.

D. Alternative Forms of Rural Cooperation

If cooperativism is to prosper and contribute to rural development, it must be actively supported by both the government and agrarian reform beneficiaries. To date Peru's military government has supported the cooperative movement, but it is unlikely to do so indefinitely if cooperative enterprises do not perform essential social, economic, and political functions. The peasantry is much more skeptical of cooperative institutions than are public officials, primarily because their lives are much more directly affected and the risks involved are greater for them. Were cooperativism to succeed spectacularly, rural incomes could be greatly increased, but few cooperative successes serve as models for organization. On the other hand, "horror stories" of cooperative mismanagement and failure abound.⁴¹

As argued at several points above, it is not small-scale production, but inadequate social and economic infrastructure which holds back peasant agriculture. A wide range of cooperative types

⁴¹Several interviews in Espinal, Montesecco, and Udima.

which fall short of fully collectivized production could prove beneficial for promoting agricultural growth and rural development in Peru.⁴² (As Otto Schiller has noted, however, these forms of cooperation which maintain individual farming units do not as a rule tend to evolve into fully collectivized production units.)⁴³ These may be grouped under four main headings:

A. Traditional Service Cooperatives

1. Purchasing
2. Marketing
3. Processing
4. Credit
5. Transport
6. Accounting
7. Repair Shops

B. Cooperatively owned Capital

1. Breeding Stock
2. Tractors and Machinery
3. Fencing, Irrigation, and other Infrastructure

C. Forms of Mutual Aid or Cooperative Labor

1. In Agricultural Production
2. In Construction and/or Maintenance of Economic Infrastructure (e.g., irrigation systems, roads, dikes)
3. In Construction and Maintenance of Social Infrastructure (e.g., housing, schools, medical posts)

D. "Mixed Cooperatives"

1. Part of the cooperative's land is worked collectively and part is worked individually
2. Part of the production planning is collective and part is individual
3. Part of the cooperative's operations is collective and part is individual.

Traditional service cooperatives have long existed in Peru and in other parts of the world. These have performed much more important functions in Europe than in Latin America, largely due to the latifundist-dominated agrarian structure, monopolistically controlled market structure, and lack of government support in Latin American countries. The more radical the Peruvian agrarian reform, the

⁴²Carroll, "Peasant Co-operation in Latin America"; and Schiller, Formas de cooperación.

⁴³Schiller, ibid., p. 12.

more scope will exist for successful cooperation in service activities. For service cooperatives to prosper, government support is often needed for planning, financing, and technical assistance for the cooperative institutions--e.g., supervised credit, guaranteed markets, and long-term financing for processing facilities.

Cooperatively owned capital is important where such capital is strongly yield-increasing but too large-scale for individual ownership. Breeding stock, tractors, and farm machinery are classic examples, but cooperative construction and maintenance of fencing, irrigation canals, and other economic infrastructure also fall under this heading. Each of these types of capital may be owned and maintained by the collectivity, and utilized by each cooperative member individually or by members as a group.

Forms of mutual aid and labor pooling have deeply rooted traditions in the Peruvian highlands. It is often assumed that these forms of "traditional cooperation" lie at the "primitive" end of a continuum leading to modern forms of cooperative production. This belief is erroneous on at least three grounds. (1) Traditional forms of cooperation mirror the hierarchically ordered societies in which they exist; they are based on principles of "ascribed inequality," and do not involve democratic decision-making. (2) Traditional forms of cooperation involve occasional exchanges of labor and possibly other productive assets and consumption goods, but not permanent working agreements. (3) The labor and capital exchanged on traditional terms are managed by each agriculturalist on his own plot of land. At harvest time each agriculturalist markets his own crop; no cooperative division occurs.

Despite the distinctions between traditional work exchanges and modern cooperation, such arrangements can be of great importance as means of mobilizing labor for projects which could not be otherwise financed. Construction of housing and schools, maintenance of roads and bridges, and clearing of fields exemplify this type of project. Public agencies can contribute to these projects through the provision of technical assistance and purchased inputs.

"Mixed cooperatives" are probably the most relevant for the Peruvian agrarian reform program. In general, prior to the agrarian reform, part of each hacienda was occupied by individual cultivators. Where these peasants refuse to collectivize voluntarily, it may be advisable to maintain a dual operational structure: collective production on the lands worked by the ex-hacienda, and individual production on lands occupied by peasants.⁴⁴ It is likely that in

⁴⁴Such a dual operational structure is outlined by Mario Vazquez and Henry Dobyns in "The Transformation of Manors into Producers' Cooperatives," Mimeo., Comparative Studies of Cultural Change, Department of Anthropology, Cornell University (Ithaca, N.Y., 1964).

such cases, productivity can be maximized if production plans for both cooperative and individual production are drawn up and implemented by cooperative institutions. This is especially true where crops must be irrigated or plagues eradicated through joint action. In some cases specific operations, such as plowing, may be performed jointly, while others, such as weeding, are carried out individually.

The main point to be made here is that maintenance of individual plots by no means implies anarchy, isolation, and low levels of productivity. The range of possible forms of viable and useful cooperation is wide. Where landholding peasants staunchly oppose collectivization it is likely that other forms of cooperation can best promote rural development.

