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AGRIBUSINESS AND IDLE LAND
THEORY, WITH SPECIAL REFERENCE TO GUATEMALA

by

Frank Barry

Working Paper No. WP88/4

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I. INTRODUCTION

Land distribution is the major internal political issue in many Third World societies. Economic power in these primary-producing countries lies with those who own the land and the natural resources. Where economic power lies, highly concentrated, political power is usually to be found close by.

Over the course of the last decade, nominal political power in many Latin American countries has shifted from the military to elected civilian administrations, but the ownership of resources has not been substantially altered. This paper is motivated by the belief that real political power in these societies can be affected peacefully only by land redistribution policies, and that such policies represent a sine qua non for the alleviation of the all-pervasive rural poverty of the region. Specifically I wish to analyse the systemic connection between the degree of concentration of land ownership, the fact that a high proportion of plantation or agroexport land is left unutilised, and the underemployment, poverty, and malnutrition that prevails amongst the peasantry, which constitutes the largest sector of society in the countries under discussion.

Guatemala is taken as an illustrative case, but the main body of the paper comprises an attempt to explain on a theoretical level the connection between unemployment and idle land, the coexistence of which seems at first sight paradoxical. The theory presented here builds primarily on the work of Keith Griffin of Oxford and Anthony Koo of Michigan State University, while the major source drawn upon for historical detail is 'Guatemala: The Politics of Land Ownership', by Thomas and Marjorie Melville (1971).

II. GUATEMALA: THE AGRARIAN REFORM

When the dictator Jorge Ubico was ousted from power in 1944 by a non-violent uprising on the part of the middle classes, the succeeding election brought Juan Jose Arevalo to the presidency. Arevalo took it as his mandate to promote the transformation of the Guatemalan agricultural economy along two fronts; firstly, by supporting the cause of the workers on the plantations owned by the American United Fruit Co., which was at that time the country's largest single landowner, possessing more land than did the poorest 50% of the country's almost completely rural population; and secondly, by effecting, as he saw it, the transition from a feudal to a modern mode of production on the vast landholdings of the country's "native" elite.
In dealing with United Fruit the weakness of the government's hand was obvious. The company refused to bargain with the newly established labour union, and responded to government pressure, which consisted amongst other things of the partial construction of a highway to the East Coast paralleling the company's railway line (in order to break its transportation monopoly), by shutting down its monopolised port facilities and starving local industry of imported raw materials.

Dealings with the local landowning elite ran no more smoothly. A "Law of Forced Rental" was promulgated in 1949, against its opposition, in an attempt to make available for the use of the peasants some of the 60% of large landholdings which were left uncultivated. The law came too close to the end of Arevalo's term of office to cause widespread concern on the part of landholders however. In any case, laws of similar import had been placed on the statute books under previous regimes, only to remain unenforced and unenforceable in the face of the oligarchy's power.

When Arevalo was succeeded by his like-minded colleague, Jacobo Arbenz Guzman, at the next election however, it became clear that the policy was going to be brought into effect. While drafting his proposals for agrarian reform, he decreed that "the owner of lands who is not using them for agricultural production or cattle is obliged to make them available so that those who lack lands can rent them." The rental fee was to be no more than 5% of the value of production, and the payment had to be made in cash. (This requirement was instituted to break the feudal culture whereby the plantation owners lent out large sums to the Indian villagers at fiesta times, for the purchase of alcohol and clothes, and called in their debts, in the form of labour, at harvest time.)

Arbenz followed up his law of forced rental the following year with an agrarian reform that threatened to remove permanently the economic and political dominance of the country by the large landowners. The intention of the reform was to expropriate, with compensation, the vast land tracts which had been left idle or underutilised, and to distribute them to landless peasant families, or to those with insufficient land to meet their basic necessities. Indemnification was to be based on land values as declared previously for tax purposes. Over the course of the short duration of the law, lands were distributed to some 100,000 families.

Some 90% of United Fruit Company land was being held in an idle state at this time, while the average for the latifundios (large estates) of above 2,200 acres, which comprised 40% of the country's area, was over 60%. Clearly, if the land values as stated for tax purposes did not adequately reflect the discounted returns from these holdings of idle lands, then landowners faced significant losses from the reforms.

That such was the case may be surmised from the fact that plans for the ousting of Arbenz and the repeal of the agrarian reform were quickly brought to fruition. The government toppled when a
U.S.-armed and trained force of Guatemalan dissidents invaded from Honduras in 1954.

GUATEMALA: THE AFTERMATH

Throughout the period of office of the two previous revolutionary governments the landowning class had responded to the calls for agrarian reform with the argument that such interference with the rights of private property could only hinder economic development. It was in any case unnecessary, they suggested, since the whole region of the northern Department of Peten, comprising one-third of the country's total area, contained less than 3% of the population, and land demands could therefore be met through colonisation rather than expropriation. In the aftermath of the counter-revolution this proposal was enshrined in official statements of successive governments' policies.

Although Arevalo and Arbenz had promoted various colonisation schemes while in office, they realised that this could never provide an adequate substitute for the fragmentation and redistribution of the large estates. The very fact that, 400 years after the introduction of the plantation system into Central America, these lands were not yet in planters' hands reveals much about their inaccessibility and their potential for development. These problems were compounded by the health hazards associated with settling a tropical jungle area; malaria was of course endemic. Altogether, therefore, the infrastructure necessary for colonisation would be extremely costly. Since the only tax base available to finance such expenditure was the landed oligarchy, whose nominal espousal of the policy was undertaken precisely to protect their own economic position, it seemed clear that the necessary finances would not be forthcoming.

The other problem with the colonisation proposal, as the historical experience has demonstrated, is that as soon as an infrastructure is built and virgin territory opened up, the enhanced profitability of the region's resources attracts the interest of "developers", and concessions end up being handed out to those with the political power to gain them. Thus in 1969 when new roads had been constructed in Peten, ostensibly to fulfill the land needs of the campesinos, prime lots of two and a half thousand acres beside the roads were granted to U.S. businessmen and the colleagues and relatives of those in power, anxious to exploit the precious lumber and the newly discovered oil and ore deposits of the region. These difficulties are clearly inherent in any proposals which sidestep the issue of the distribution of power and privilege in peasant societies.

Now, more than thirty years after the ousting of Arbenz, little has changed. A mass march on the capitol by landless peasants from the western coffee-growing region, led by a Catholic
priest, Padre Andres Giron, forced new discussions of land reform within the centrist government of Vinicio Cerezo, but produced a stern response from the landowners.

Captain David Ordonez, president of UNAGRO, in an interview with the newspaper Prensa Libre in July 1986 warned that expropriation "would violate the Constitution of the Republic, which would bring forth a protective response. Everyone has the right to defend their interests:" he continued. "If there are left-wing guerrillas who have taken up arms for their cause, we too can defend ourselves by appropriate means. No-one knows the reaction of one who is under attack."

While favouring a solution whereby the government would buy land on the open market, possibly with the aid of U.S. funds, for distribution to the campesinos, he went on to note that "fortunately Guatemala even still has sufficient land....We have the Peten, in which there are lands which, if they are not good enough now for cultivation, must be made good enough for Padre Giron's 20,000 campesinos, and for ten times that number. Peten is distant, and there are neither communications nor infrastructure, but we (the landowners) cannot rectify that... This problem is technical, not political."

III. THE EXTENT OF LAND UNDERUTILISATION

One central point which emerges from the brief outline of recent Guatemalan history presented above is the fervent determination of landholders to protect their ownership of resources which they permanently underutilise. This raises the major question with which the present paper is concerned: What is their purpose in maintaining these idle lands?

Before attempting an answer, it is worthwhile to take account of the extent of the practise. To set the scene, some data on land ownership in Guatemala is presented in Table 1. It reveals that almost 90% of all farms in the country fall into the two smallest classes, jointly termed minifundios, which are classified as holdings too small to sustain an average family, so that family members must seek outside employment to reach subsistence level. These minifundios account for only 14% of total agricultural land. At the other end of the scale are the latifundios, the medium and large agroexport enterprises, which comprise just over 2% of all farms but hold over 70% of the land.

TABLE 1 HERE
Table 2 illustrates the extent of land use amongst these various types of farms, demonstrating that the percentage of land left uncultivated rises sharply as one moves from the mini to the latifundio classifications. Almost all of the land on the micro and subfamily farms is cultivated, notwithstanding the fact that much of it is in steep mountainous areas; it is not unusual in Guatemala to see fields tilled up the slopes of active volcanoes. On the large latifundias, on the other hand, over 60% of land is left unused. Given the extent of latifundia holdings already revealed in Table 1, this means that as much land is left idle in Guatemala as is cultivated. Coexisting with this is a malnutrition rate of 80% amongst children under the age of 5. (Nutrition Institute of Central America and Panama.)

TABLE 2 HERE

Tables 3 and 4 indicate that this same negative relationship between land use and size of holdings prevailing in Columbia and Ecuador, while Griffin (1969), making a similar point, notes that "even in the Argentine Pampa, the most productive and efficiently cultivated region in Spanish America, only 48.7% of the agricultural land is cultivated...On the larger 'estancias' the percentage is even smaller." Although I have been unable to locate comparable statistics, it seems reasonable to speculate that a similar pattern might be revealed in other regions of the Third World.

TABLES 3 AND 4 HERE

As it is sometimes suggested that land in semi-feudal societies may be held for reasons of status rather than profit, the statistics collected in Table 5, which concern the activities of the United Fruit Company in Central America in 1967 are revealing. [The company has lost its dominant position since then. It was purchased by United Brands in 1970, and its Guatemalan plantations were sold off to Del Monte as part of a divestment program required by U.S. anti-trust legislation. Cf. Burbach and Flynn (1980).]

TABLE 5 HERE

- 6 -
The table indicates that this unambiguously-capitalist enterprise acted in a fashion not-remarkably dissimilar to the way in which the large 'native' landowners behave. Only 13% of the land it held in Guatemala at this time was under cultivation, while the overall figure for the four Central American countries in which it operated plantations was 25%. It would seem natural, therefore, to start from the assumption that the motivations of both types of enterprises are the same.

IV. SOME POSSIBLE EXPLANATIONS

Several reasons for this low utilisation of resources have been suggested in the literature on the operations of large multinational food companies like United Fruit. Four main points can be identified: Firstly, the need for continuous plantation tracts to ensure ease of access to good lands; these may be interspersed with bad patches which are left idle. Secondly, the multinationals, in order to sustain a degree of monopoly power on world markets, may hold more land than they need in order to exclude competitors. Thirdly, as the establishment of plantations has historically been associated with the opening up of new territories, land available at low cost at that time may have been acquired in anticipation of later increases in value. The fourth point identified in this literature concerns the size of plantation-related investments in transportation and processing facilities. Statistics available for the operations of United Fruit in 1967 indicate that direct plantation activity accounted for only one-third of its investment in fixed assets while the share of transportation was almost 40%. [Beckford (1972), p.145]. Under these circumstances the profitability of the company's operations would depend crucially on keeping the transportation system (which includes railway lines, wharves, and steamships) running at optimum capacity, and sufficient land would have to be held in reserve to prevent large and sustained interruptions in product flow. The "Panama Disease", for example, which attacks bananas, necessitates flood-fallowing of lands before they can be brought back into production, so other lands must be available to minimise the impact on transportation loads.

These various factors, whilst undoubtedly important, do not appear sufficient to explain the full extent of the underutilisation of land. With regard to the transportation capacity argument, for example, Melville and Melville (1971) note that in the main banana-growing region of Guatemala, on the Atlantic coast, United Fruit had 4,000 acres planted and held another 88,000 in reserve, justifying this to the Arbenz government as a hedge against the possibility of Panama disease. These numbers imply, however, as the authors remark, that "even if they doubled their production and did not effect flood-fallow, they had enough reserve land for 110 years more." The second argument mentioned above, focussing on the desire of multinationals to exclude com-
petitors from the region, cannot apply to the 'native' agroexport business which lacks international market power; while the point made about land speculation appears unconvincing to the neo-classically-trained economist who would expect such land to be rented out rather than retained in an idle state, in the absence of any effective legislation preventing the removal of sitting tenants.

V. MONOPSONY POWER

An alternative explanation for the extent of underutilisation of land holdings is suggested by some of the writers mentioned above. It emerges when one considers the vast seasonal labour requirements of the agribusiness enterprise alongside the distribution of economic power in the societies in which they operate.

Mechanisation to economise on labour use is often more difficult to effect in this type of industry than it is in manufacturing; in the case of Guatemala's major export crops for example, the care of coffee plants and their harvesting must be carried out manually, while picking by hand greatly enhances the quality of cotton. High seasonal demand means, as Koo (1979) notes, that even amidst the poverty and unemployment of plantation economies there is full employment at seasonal peaks, accompanied by "sharply higher wage rates...and the high participation of the marginal female and child members of the labor force." As recently as the 1960's in Guatemala, Melville and Melville (1971) report, it was "not unknown for finca (plantation) owners to go to the Government and request aid from the army or some other security force to find the necessary but unwilling hands to do the job" if debt peonage could not ensure a sufficient labour force.

It is clear, therefore, that the viability of plantation agriculture requires the availability of an adequate seasonal labour supply. The compatibility of subsistence and export agriculture is diminished by the extent to which the harvest-times of the two types of crop overlap, since this reduces labour supply at the critical period, and this may help explain the unwillingness of large landowners to allow peasant tenancy on idle lands.

To analyse how the dominant position of plantation owners in the land market allows them exercise control over the labour supply requires disentangling interwoven elements of monopoly and monopsony power. The thesis that a narrow land distribution gives large landowners the ability to influence rural wage rates is propounded by Keith Griffin (1976,1979), who argues that "factor markets in underdeveloped countries are highly imperfect. Land is monopolised by a few families, particularly in North Africa, the Middle East and Latin America, but also in some Asian nations such as the Philippines. This alone is sufficient in many cases
to give landowners oligopsony power in the local labour market, since in a predominantly agricultural country those without land have no alternative but to offer their labour services to powerful landlords. Serfdom and debt slavery are unnecessary in most instances, although they can still be found." (1979, p.227) "In other words, an unequal distribution of land ownership, a defective tenure system, and privileged access to the capital market may combine to give landowners monopsony power over labour and where this occurs the result will be lower wages and less employment than would otherwise be the case. 'Surplus labour' - or, strictly speaking, underemployment - in these economies is a product of land tenure and market structure and not, as is widely believed, a product of high population densities." (1979, p.31)

As an illustration of the plausibility of the proposed hypothesis, Griffin (1976, p.198), in a paper on rural poverty in Ecuador, brings to light the inverse relationship that exists there between the degree of monopolisation of land within the various regions and the incomes of the local labour forces.

Given the ubiquitousness of monopoly power in Third World land markets, [see Griffin (1969, chpt.1) and (1979,pp.18-21) for details], it is worthwhile considering whether this is either necessary or sufficient for landlords to be able to influence wage rates and labour supply. Griffin's work is unclear on this matter; the issue has, however, been analysed explicitly by Anthony Koo (1979), and it is to his results that I now turn.

A business is said to possess some degree of monopoly power when it can influence the price it receives by expanding or contracting the amount of the good it offers for sale or rent. Closely related to this is the concept of monopsony power, where the purchaser, by varying the quantity demanded, can influence the price paid. Making use of monopoly power in land involves reducing the amount offered for rent in order to drive up the rent per acre leased.

Koo begins by asking whether the possession of monopoly power in the land market necessarily implies that large landowners have monopsony power in the labour market. He shows that this is not the case. Monopsony requires that the plantation be the major and significant purchaser of labour in the local labour market. A plantation which, in accordance with the principles of monopoly, reduces the amount of land it rents out thereby raises the number of landless peasants or sub-subsistence tenants, and the supply of labour available locally thus increases. Counteracting this effect, however, is the plantation’s increased demand for labour to work the land that it would otherwise have leased. The plantation’s demand for labour relative to the size of the local labour market may not therefore be affected, so that "monopoly power in the land market is not a sufficient condition for... monopsony power in the labor market."

Neither is it a necessary condition, as he demonstrates by means of an example in which a landlord leases land at monopoly rents
to both small and middle peasants; one of the characteristics of the latter group being that their need for labour exceeds the supply available from their own households. It may be possible that these middle peasants, who have no power in setting rents, are nevertheless in a position to hire a quantity of labour of sufficient size to influence the wage rate.

Whilst not denying the empirical importance of the monopoly-monopsony thesis, which Koo in fact accepts, his demonstration that there is no necessary overlap between the two types of market power nevertheless diminishes the force of Griffin's argument, since monopsony is far more difficult to observe empirically than is the monopoly of land. As we have seen, however, Koo's discussion ignores the inverse relationship between the size of land holdings and the intensity of land use which has been the major focus of the present paper. It is monopsony power, as I now hope to show, that offers us an explanation of this phenomenon.

Consider a situation in which two inputs, land and labour, are employed in an agricultural production process characterised by constant returns to scale - output doubles if the inputs are doubled. Let us also begin by assuming that the plantation's role in the labour and land markets is small, in the sense that it can hire as much labour or rent out as much land as it desires without influencing the prevailing wage or rental rates. Will any land be left idle under these circumstances, other than for the reasons mentioned in Section IV above? The answer is no; there is no incentive to do so. Leaving land idle involves a loss in the form of rent or production foregone, with no corresponding gain. Introducing some degree of monopsony power, whilst retaining the assumption of perfect competition in the labour market, affects behavior but leaves the answer to this essential question unchanged. It causes the landowner to reduce the amount of land on offer to prospective tenants in order to raise the rent attainable, but the land withdrawn from tenancy will be employed in its alternative use - plantation agriculture or 'agribusiness', since the profit attainable from it, i.e. the value of its output less labour costs, is the same as that for the rest of the land under cultivation on the plantation. Monopoly power alone cannot explain idle land.

Now let us, in addition to these assumptions, introduce monopsony power. The less land that is offered to tenants, the greater is the supply of labour to the plantation and the lower, therefore, is the wage rate. This gives an added impetus to the removal of land from tenancy. As Koo noted, though, upward pressure will be exerted on wages if this land is cultivated by the plantationowners. What he failed to note is that the very essence of the employment of monopsony power lies in the restriction of labour demand in order to drive down the wages that the monopsonist must pay. By leaving land idle rather than drawing it into production, which raises labour demand, or renting it to tenants, which reduces labour supply, the monopsonist exercises his power to drive down wages.
Finally let us note that monopsony power in the absence of monopoly power is in itself insufficient to explain idle land, since in this case the plantation, by reducing its area under cultivation, reaps the benefits of lower wages through its restriction of labour demand, but there is no incentive not to rent out to tenants at the prevailing rental rate the area formerly under cultivation, since this has no effect on labour supply.

To state the argument as succinctly as possible, monopoly power leads the landowner to restrict the amount available for rent in order to drive up the rental rate, but, in the absence of monopsony power, there is no gain to be made from not cultivating the unrented land. The possession of monopsony power, on the other hand, leads to a reduction in the area cultivated by the landlord, since this reduces wages, but without monopsony power there is no gain to be made from withholding the idle land from tenants. The presence of both types of market power, however, can lead to a situation in which the area offered to tenants and the area cultivated by the landlord are both reduced, so that the holding of uncultivated lands may be the profit-maximising strategy.

The fact that the holding of idle land is so widespread in developing countries would seem to imply, therefore, that plantation-owners frequently wield both types of power. The narrowness of land distribution has already been alluded to; where, though, does the monopsony power stem from? The ability of an employer to influence wage rates requires that the operation be large relative to the size of the local labour market; this in turn requires that labour not be highly mobile between regions. If it were, then the attempt by plantation-owners to reduce wages would lead to an outflow of workers, and the reduced labour supply in the local market would counteract the effects of the reduced demand.

As it happens, though, there are many factors which combine to reduce labour mobility and thereby provide the necessary conditions for monopsony to prevail. One contributing factor is the large scale of operation of many plantation enterprises; in the case of bananas, for example, as Arthur Houck and Beckford (1968) point out: "There is a certain minimum area required to justify the specialised shipping facilities that the trade demands. United Fruit Company usually specifies that at least 5,000 acres of first-class land...be available in one block before a farm can be established," (quoted by Beckford (1972, p.166)). This leads to a situation in which, "in Honduras, Guatemala, Costa Rica, and Panama, large-scale foreign-owned banana plantations provide virtually the only source of income and employment for people living in the Caribbean lowlands." (Beckford (1972, p.247). Combined with a lack of roads, poor communications and transportation facilities, and an interregional information flow hindered by high rates of illiteracy, what we seem to be presented with is an isolated local labour market with the potential for monopsony domination.
Another major factor contributing to the segmentation of local labour markets is the extent and importance of regional cultural differences, particularly in language and dress, which impede labour mobility. Griffin (1976) discusses the importance of these issues with specific reference to Ecuador, but they play a significant role in all six countries of Latin America in which a high proportion of the population are "Indian". Guatemala is one of these; in this country of some seven million people there are two hundred and eighty-eight distinct indigenous costumes and twenty-two local languages. [Melville (1971, p.9)]

VI. CONCLUSIONS

My purpose in this paper has been to explore the extent of idle land holdings, and to analyse the possible causes of the significant relationship found between farm or plantation size and the proportion of land left uncultivated. A study of Guatemalan, or indeed of all Latin American, history indicates that the large landowners have been prepared to remove from office governments which threatened to encroach upon these idle lands.

The analysis proposed here focusses on the importance to landowners of restricting the cultivation or leasing of these lands in order to reap the benefits of possessing monopsony power in the labour market. This also helps explain the threat posed to the interests of the landed oligarchy by the organisation of peasant labour movements, which have in many Latin American countries been suppressed even more violently than their urban counterparts. When monopsony power exists, the labour force can offset the downward pressure exerted on wages by organising as a countervailing force.

If this analysis is correct, it suggests that upper-class support for colonisation of uninhabited areas such as the Peten in Guatemala may be disingenuous, since such a programme would reduce their labour supply. As it would also stem the escalating demands for radical land reform, however, some degree of colonisation may be desirable from their point of view. The pace would in any case be largely under their control, and could thus be chosen to best serve their interests, as they comprise the only tax base available to finance the necessary infrastructural developments associated with colonisation.

In terms of development strategy, the analysis implies that land reform would raise rural wages through its impact on labour supply and, surprisingly, could even be associated with an increase in the area cultivated by agribusiness (through the dismantling of monopoly and monopsony power). National income can be expected to rise alongside more intensive land use. Possible ramifications of higher rural wages include reduced urban unemployment, [a process explored in the well-known Harris-Todaro model
(1970)], and increased urban wages [in line with Lewis' (1954) equally famous contribution].

Furthermore, as Griffin (1979, p. 230) points out, land redistribution, by diffusing political power, may broaden the tax base and improve the potential for infrastructural development.

One final and very much broader issue is worth mentioning, given the historical impact of the land redistribution programme instituted in Ireland at the end of the last century. By finally acceding to the demands for land reform, Britain, perhaps inadvertently, contributed massively to the stability and conservatism of Southern Ireland, and effectively defused a long-standing threat to its own security. It seems to me that there is a profound lesson here for the United States, in regard to its policies towards Latin America.
REFERENCES

Arthur, H.B., J.P. Houck, and G.L. Beckford (1968) Tropical Agri-
business Structures and Adjustments - Bananas (Boston).

Beckford G.L. (1972) Persistent Poverty: Underdevelopment in
plantation economies of the Third World, (London: Oxford Uni-
versity Press).

Burbach, R. and P. Flynn (1980) Agribusiness in the Americas,

Griffin K. (1969) Underdevelopment in Spanish America, (London: 
George Allen and Unwin).

Griffin, K. (1976) Land Concentration and Rural Poverty, (London: 
Macmillan Press).

Griffin, K. (1979) The Political Economy of Agrarian Change, 

Harris, J.R. and M.P. Todaro (1970) "Migration, Unemployment and 
Development: a two-sector analysis," American Economic Review, 
LX, pp.126-142.

Koo, A.Y.C. (1977) "An Economic Justification for Land Reform-

Koo, A.Y.C. (1979) "Monopoly and Monopsony Powers of Landlords in 
Developing Countries," Land Economics, 55, pp.128-34.

Lewis, W.A. (1954) "Economic Development with Unlimited Supplies 
of Labour," Manchester School of Economic and Social Studies, 
XXII, pp. 139-191.

Melville, T. and M. Melville (1971) Guatemala: The Politics of 

Prensa Libre (1986) "Reforma Agraria: El infierno o la gloria 
para Guatemala," (Guatemala City; July 27, 1986).
### TABLE 1. LAND DISTRIBUTION IN GUATEMALA

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<tr>
<th>Farm Type</th>
<th>Percentage of total farms</th>
<th>Percentage of Total Area</th>
<th>Average Size</th>
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<tr>
<td>Micro</td>
<td>21.3</td>
<td>0.8</td>
<td>0.4 hec.</td>
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<td>Subfamily</td>
<td>67.1</td>
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<td>Family</td>
<td>9.5</td>
<td>13.5</td>
<td>15.2</td>
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<tr>
<td>Med. Multifamily</td>
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<td>Lge. Multifamily</td>
<td>0.1</td>
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**NOTES:** Source: Melville and Melville (1971) Appendix, Table 3. The table is based largely on the 1950 census. Figures since then have been the subject of much dispute. 1 hectare = 2.47 acres.

### TABLE 2: LAND USE IN GUATEMALA

<table>
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<tr>
<th>Farm Type</th>
<th>Percentage Used</th>
<th>Percentage Not Used</th>
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<td>Micro</td>
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<td>Lge. Multifamily</td>
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<td>60.7</td>
<td>10.8</td>
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**NOTES:** Source: Melville and Melville (1971) Appendix, Table 2.

### TABLE 3: LAND USE IN ECUADOR

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<th>Size of Holdings (hec.)</th>
<th>Percentage of Land Used</th>
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<td>20 - 99.9</td>
<td>45.3</td>
</tr>
<tr>
<td>100 - 499.9</td>
<td>34.1</td>
</tr>
<tr>
<td>500+</td>
<td>15.0</td>
</tr>
</tbody>
</table>

**NOTES:** Source: Koo (1977) Table 2. Data set comes from 1964.

### TABLE 4: LAND USE IN COLUMBIA

<table>
<thead>
<tr>
<th>Farm Type</th>
<th>Percentage Cultivated</th>
<th>Percentage under fallow and natural pastures</th>
<th>Woods and Mountains</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minifundia</td>
<td>62.9</td>
<td>32.0</td>
<td>5.5</td>
</tr>
<tr>
<td>Family Farms</td>
<td>29.1</td>
<td>49.4</td>
<td>21.5</td>
</tr>
<tr>
<td>Latifundia</td>
<td>5.7</td>
<td>65.8</td>
<td>28.5</td>
</tr>
</tbody>
</table>

**NOTES:** Source: Griffin (1976) Table 3.8 Data set comes from 1960. Minifundia here are farms with less than 5 hec. in the Andean region or less than 10 hec. in the Caribbean region. Latifundia here are farms of 50 hec. or more in the Andean region or 100 hec. or more in the Caribbean region.
### TABLE 5: LAND USE ON UNITED FRUIT CO. PLANTATIONS IN CENTRAL AMERICA

<table>
<thead>
<tr>
<th></th>
<th>Total land owned or leased by U.F. Co.</th>
<th>Total Cultivation</th>
<th>Percentage cultivated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>acres</td>
<td>acres</td>
<td></td>
</tr>
<tr>
<td>COSTA RICA</td>
<td>261,500</td>
<td>73,900</td>
<td>28</td>
</tr>
<tr>
<td>GUATEMALA</td>
<td>78,200</td>
<td>9,600</td>
<td>13</td>
</tr>
<tr>
<td>HONDURAS</td>
<td>216,400</td>
<td>43,400</td>
<td>20</td>
</tr>
<tr>
<td>PANAMA</td>
<td>125,700</td>
<td>44,000</td>
<td>35</td>
</tr>
</tbody>
</table>

**NOTES:** Source: Beckford (1972), p.146.  
Data set comes from 1967.
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