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THE ROLE OF SEASONAL LABOR IN THE ECONOMIC DEVELOPMENT OF GUATEMALA

BY

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An outstanding feature of the agriculture of Guatemala is the seasonal transfer of many workers from the subsistence sector to the export sector. In a study conducted in 1965-66 the author analyzed this seasonal employment, using the Lewis theory of development with unlimited supplies of labor as a theoretical basis.[1]

One of the principal purposes of the present research is the exploration of possible grounds for mutual benefit between the export and subsistence sectors.

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The export sector of Guatemala consists of large farms producing cotton, coffee, sugar cane, and other export products, while the subsistence sector consists of extremely small farms producing corn, and to a lesser extent, other food crops, much of which is consumed by the farm families. Real incomes are extremely low in the subsistence sector with many small cultivators not even producing sufficient food for the consumption needs of their own families.

Because of climatic conditions, agricultural work is seasonal. In Guatemala there is little work to be done on the small plots of land of the highland cultivators during certain seasons. The large farms need a great many laborers for comparatively short periods during the year, particularly during the harvest season. It is, therefore, a natural result of this situation that at least 200,000 small cultivators supplement their meager earnings by working on the large farms on a seasonal basis.

Lewis has divided the underdeveloped economy into two components: the capitalist sector and the subsistence sector. The first is defined as the sector which "uses reproducible capital and pays capitalists for the use thereof."[2] The subsistence sector does not use reproducible capital but rather produces with traditional techniques requiring little or no reproducible capital. Though Lewis had applied this distinction to the economy as a whole, the distinction is also relevant to the agriculture of Guatemala: the capitalist sector, consisting mostly of large farms which use reproducible capital; and the subsistence sector, consisting of the great majority of the small farms, the production of which is nearly all

consumed by the farm family. In analyzing the seasonal labor situation, Guatemalan agriculture was considered to consist of these two sectors.

The Lewis theory was assumed here to apply to the seasonal transfer of labor from the subsistence to the capitalist sector, even though Lewis implicitly considers only the permanent transfer of labor from the subsistence to the capitalist sector.[3] Other writers have discussed seasonal or temporary employment in terms of the Lewis theory. For example, Viner observed that, in Africa, surplus male laborers in agriculture became migrant laborers in the exchange (or capitalist) sector on a seasonal basis or for a year or two.[4]

Evidence from Barber indicates that where subsistence farmers are employed on a seasonal basis in the capitalist sector the eleasticity of the labor supply may be greater than where the workers are employed on a yearly or a permanent basis. Barber says, "When periodic disguised unemployment exists temporary wage employment by the adult male does not reduce the agricultural output of the indigenous family."[5]

"As long as the absenteeism of adult male workers did not alter the family's agricultural output there would be no tendency for the supply of labor to lose its elasticity."[6]

The small farmer contributes his labor both to the production of subsistence crops and to the production of export crops; therefore, his contribution to the national product is greater than if he were employed solely in the subsistence sector or solely in the export sector. To the extent that the hiring of labor from the subsistence farms takes place during the slack season on the farms, the supply of labor in Guatemala can be considered to be unlimited.

Historically, labor legislation and decrees in Guatemala have had a premise of an actual scarcity of labor and have implicitly assumed that compulsion has been necessary for the recruitment of agricultural labor. The spirit of legislation seems to have been at variance with the underlying economic relations.[7] Concurrently with the operation of coercive policies of labor recruitment, the highland areas have gradually become overcrowded by an increasing population engaged in subsistence agriculture. This growing population of the highlands has, in fact, created a labor surplus of the kind visualized in the Lewis formulation, at least on a seasonal basis. Thus the highlanders were under economic pressure to seek seasonal employment in large-scale agriculture in other parts of the country, even as coercive labor recruitment policies were given public sanction.

Such a situation of mutual need should provide a considerable zone of reciprocal advantage; the highlanders need employment and the large-scale farmers need a seasonal labor force.

The Situation in Guatemala

As in most underdeveloped countries, a large proportion (71% according to the 1964 census) of the gainfully employed in Guatemala are engaged in agriculture, fishing, hunting and lumbering. About 29% were classified as permanently employed in large-scale agriculture.[8] About 42% of the economically active were classified either as self-employed farmers or as unpaid family workers. Therefore, about one-half million persons were classified as subsistence farmers or unpaid family members, a group which constitutes a large source of potential labor for a country of 4.3 million people.

In the aggregate, Guatemala is not a densely populated country, if only the over-all density of population of 108 per square mile is considered. However, little land is available to the majority of the small farmers. This is an important point when one is considering the feasibility of transferring individuals from the subsistence sector to the capitalist sector. Especially in the highlands, the amount of land available to the majority of farm families is very low. For the country as a whole, in 1950, 48% of the 348,700 farms were below 1.4 hectares (3.46 acres) in size and an additional 29% were between 1.4 and 3.5 hectares (8.65 acres). Preliminary figures from the 1964 census indicate that the number of small farms was substantially larger in 1964.

Evidence from a companion study which included interviews with 348 campesinos of the Western Highlands indicated that the average farm size in this area was 2.7 hectares and the average amount of land cultivated was 1.4 hectares.[9] The average amount of land cultivated by the 71 migratory workers was only 0.97 hectares. This agrees closely with the average 1.04 hectares cultivated by 107 migratory workers with land who were interviewed in the Schmid study.[10] Since, even with hand tools, the average family consisting of two or three male adult members can work several hectares of field crops such as corn, it is evident that the majority of small farmers cannot utilize all of the available family labor upon their small plots unless labor intensive crops are planted.

The above figures indicate that there is an abundant surplus of labor on the small farms. Not only were farm families on the smallest farms employed for fewer days during the year than those on larger farms, but the yield of corn per man-day of family labor on the smallest farms was only 0.16 quintales (1 quintal equals 100 pounds) compared to 0.5 quintales for farms of over two hectares.[11] This indicates that more land can be operated by small farmers if it is available. This conclusion is supported by the large number of small farmers interviewed who indicated a desire for more land to work.

The fact that incomes from farming are extremely low is even more important than that the campesinos may be underemployed on their home farms. If their incomes were large enough they could avoid going to work on the large farms, even though they were employed

for only a fraction of the year in their home communities. Average net farm income of 107 campesino families was $73.00, while 15 of the 107 families earned an average of $106.00 from nonfarm activities in the home community.[12] The average family had living expenses in the home community which were more than double the combined earnings from both farming and nonfarming activities, while the living expenses of the single workers were about 25% greater than their incomes, as shown in Table 1. The above figures demonstrate that the small farmer must seek off-farm employment in order to exist, even at low living levels.

Table 1. Average Annual Family Incomes and Living Expenses of 118 Interviewed Migratory Workers in Home Communities

Group	No. Cases	Average Net Income	Average Family Expenses	Average Deficit
Married	74	$66.52	$166.38	$99.86
Single	44	101.91	126.16	24.25
Total	118[a]	$79.71	$151.30	$71.59

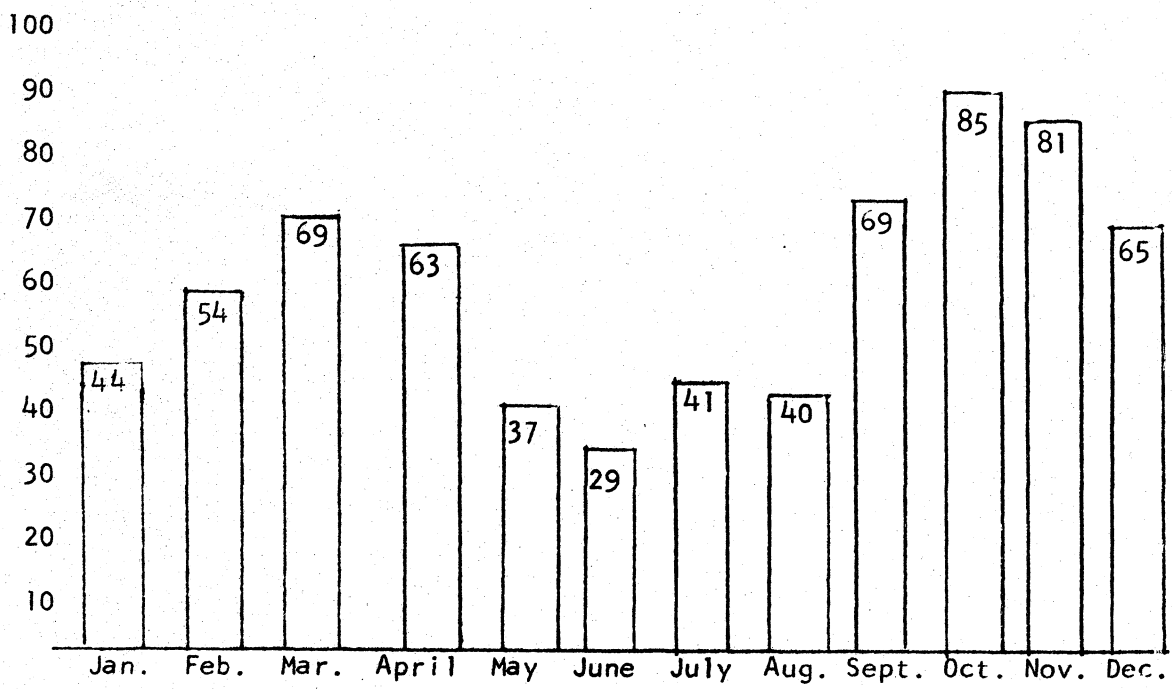
[a] This includes 11 workers who had no farm income, but did have nonfarm income, and four workers who had both farm income and nonfarm income.

Source: Lester Schmid, "The Role of Migratory Labor in the Economic Development of Guatemala," p. 178.

Since corn is the principal crop grown in the highland areas in which the majority of the migratory workers live, the periods of employment in the corn crop in these areas is a rough indication of the seasons in which the migratory workers are employed on the home farms.[13] Diagram 1 shows the percentage of workers who did no work in their corn plots during each month. Though all of the campesinos worked in their corn plots at various periods throughout

the year, only 71% were employed on their own land at the peak season of activity in the corn crop in the highlands, owing to differences from community to community and from farm to farm in the time of year that these farming operations are performed. Diagram 1 shows that 29% did no work in their corn plots during June, the peak work period. However, during the last four months of the year, September through December, from 65 to 85% of the workers did not work in their corn plots for even one day. Another period of low-level employment is March and April.

Diagram 1. Percentage of Campesinos Who Did No Work in Their Corn Plots Each Month



Source: George W. Hill and Manuel Gollás, "The Minifundia Economy and Society of the Guatemalan Highland Indians."

The principal crops grown by farms which constitute the capitalist agricultural sector likewise have a seasonal pattern of labor requirements. Coffee farms require some labor throughout the year, but the

greatest requirements are for harvesting during the months of September, October, and November, with harvesting continuing until as late as March in a few areas. Cotton harvesting requires much more labor than is needed during the rest of the year. This crop is picked from November to March, the peak months being December and January. Sugar cane is harvested from November to May. The seasonal aspects of employment in sugar cane are somewhat less important than in coffee and cotton, and the number of seasonal workers involved is likewise much smaller.

There is, then, some complementarity between employment in subsistence and in capitalist agriculture. This is most noticeable in employment for the coffee harvest. There is more competition between employment in the subsistence sector and cotton harvesting.

The small amount of land available to small farmers and the generally low quality of this land have resulted in extremely low farm income, as well as inability to spend much of the year in lucrative employment on the home farms. On the other hand, large farms have a great need for workers during the harvesting seasons, at least part of which coincides with periods of low levels of employment on the home farms. The natural result of this combination of circumstances is that one or more members from each of the approximately 200,000 farm families who live on their extremely small subsistence farms are employed on the large capitalist farms on a seasonal basis.

Theoretical Considerations

Having a labor force which supports itself for the greater part of the year and is available for the period during which their labor is needed by the large commercial farms enables these employers to reduce labor costs and raise profits in comparison to the alternative of maintaining a year-round labor force. By working part of the year on their home farms and part of the year on large farms, the small farmer utilizes his time more fully than if he were to work in only one or the other of these locations. Therefore, his contribution to the national product should likewise be greater. Insofar as seasonal employment on the large farms occurs largely during periods of unemployment on the home farms of the workers, there is no problem of reduced production on home farms.

One of the main elements in the Lewis theory is the relationship of wage rates in capitalist employment to earnings in the subsistence sector. Lewis postulated that wages could be no lower than earnings in the subsistence sector, since farmers could not be expected to work for someone else for less than they could earn on their own farms. In his article, "Economic Development with Unlimited Supplies of Labor," Lewis hypothesizes that wages would need to be 30% higher than earnings in the subsistence sector. Later, in his article, "A Review of Economic Development," he states, "It is not now unusual to find some unskilled workers in the modern sector earning three to four times as much as the average small farmer."[14]

Average daily earnings of seasonal or migratory workers of Guatemala (including those of the wife and children) were found to be $0.88 on coffee farms and $1.25 on cotton farms, including the value of rations which were supplied as part of their wages. These data are presented in Table II. Their earnings were 2.9 to 4.1 times the $0.30 earned per day during the period of the year when the worker resided in his home community. The daily earnings per day worked on the home farm, however, averaged $1.40 for the 52 days of work required for the average size plot of corn of about one hectare.[15] Thus, earnings per day worked on the large farms were somewhat below earnings per day worked on the small farms.

This seems to offer one explanation of why daily earnings on large farms were several times the average daily earnings of workers during the time they resided in their home communities. Even though they may be unemployed on their own farms for a large part of the year, they may be reluctant to accept work off the farm for a daily wage much lower than they earn during the time they actually work on their home farms. This might not be true if farmers' incomes were below the subsistence level. However, as Tax has suggested, the subsistence level may be lower than an outsider thinks and even an extremely poor farmer may consider himself above the subsistence level.[16]

As expected, from consideration of the lower level of activity on the home farms during the coffee harvest as compared to that during the cotton harvest, wages on coffee farms were lower

than wages on cotton farms. This supports the Lewis contention that wages in capitalist employment are influenced by alternative employment opportunities in the subsistence sector. There are complicating factors, however. Coffee picking occurs shortly before corn harvest, whereas cotton picking occurs at the time of or after corn harvest. At the time of cotton picking the new corn crop is available as a family food supply, which is not the case at coffee-picking time. Also, the climate of coffee areas is more agreeable than that of the cotton farms, especially to people from the highlands. Coffee not only grows at higher altitudes, but it is generally picked in the shade, while cotton is picked in the sun. Living conditions on coffee farms are, in general, more desirable than on the cotton farms. All of these factors make it necessary to pay higher wages on cotton farms than on coffee farms in order to attract workers.

Table 2. Average Daily Earnings of Interviewed Migratory Workers by Type of Farm

	Cotton			Coffee	Sugar Cane		
	with rations	without rations	Total	with rations	with rations	without rations	Total
Number workers	25	25	50	46	20	4	24
Average cash wage	$1.04	1.31	1.18	.75	.85	.88	.86
Average rations	.14	-	.07	.13[b]	.12	-	.07
Average earnings	1.18	1.31[a]	1.25	.88	.97	.88	.93

[a] Workers on the cotton farms who did not receive rations generally paid $ .40 to $ .50 per day for prepared meals which consisted of the same food valued at $ .14 in the form of rations.

[b] All workers on coffee farms were considered to have received rations, although a few received only coffee. This has resulted in a lower average value of rations than would otherwise be the case.

Source: Schmid, op. cit., p. 248.

If the migratory work force were composed entirely of farmers whose presence on the home farm in the highlands was necessary for some period during the year, the difference in wages between the period of coffee harvest and of cotton harvest would be greater than it is. It was obvious that the migratory labor force on the cotton farms visited consisted of a much higher proportion of young men than did the migratory work force on the coffee farms visited.[17] Of the workers interviewed on the cotton farms, 34% were under 21 years of age, while of those on the coffee farms, 15% were below that age. Apparently, a higher percentage of the cotton workers had fathers or brothers who remained behind to continue operating the home farm while the workers themselves were on large farms to earn cash.

It is generally agreed by the larger farmers that a good crop year on the home farms of workers in the highlands means that labor will be relatively scarce during the succeeding season; and conversely, that labor will be relatively plentiful in the year following a poor crop year in the altiplano. The evidence from the village of San Andrés Semetabaj supports this interpretation. In this village the activities of a cooperative resulted in higher crop yields, and the increased economic activity completely eliminated seasonal employment on the large fincas as a source of income for members of this community. Because of this, some employers of migratory labor have the impression that many workers have a goal of some total amount of income in mind; that is, that increased income in the home community for each individual is balanced by fewer days' work on large farms.

Generally speaking, the campesinos who had the lowest incomes at home were those who engaged in seasonal employment on large farms.[18] The average annual family income from work in the community was $269.00 for the non-migratory campesinos and $128.00 for migratory workers. Because of this relationship, those workers who spent the least time on the fincas should have the most income in the home communities; therefore, total income should remain fairly constant as the number of days spent in migratory work increased. As shown in Table 3, this was the case only for workers who spent over 150 days working on the large fincas. For those who spent over 150 days on the large farms, average total per capita annual income was $70.00 to $80.00, compared to $43.00 for those who worked for 50 days or less, $55.00 for those who worked from 50 to 100 days, and $63.00 for those who worked 100 to 150 days. Even though there may be a level of living below which the worker cannot continue to exist, the standard of living is flexible in the upward direction. This suggests that the worker who is living somewhat above the bare subsistence level is likely to work nearly as long as the worker living at the subsistence level. The migratory workers respond to increases in wages and better living conditions in a positive way rather than in a negative way, as supposed by some employers.

Therefore, the fact that the most common duration of labor contracts was 30 or 60 days needs more explanation. If the average migratory worker has only one hectare of land at his disposal, as

did those interviewed in the author's study, and thus works about 52 days on his home farm, this would leave 300 days per year available for nonfarm employment. The workers interviewed in this study worked an average of 101 days on the large farms, but 32% worked less than 50 days per year, and another 32% worked 50 to 100 days per year. On the average, then, the workers appear to have at their disposal about 200 days of which they do not take full advantage.[19] For the majority of workers the number of days not spent in productive agricultural work is even higher. It is evident that at least one-half of the potential working time of the average migratory worker is not being utilized.

Table 3. Annual Per Capita Earnings of Interviewed Migratory Workers and Families

Days Worked	No. Cases[a]	Average Size Family	Average Per Capita Earnings in Community	Percent of Total Earned in Community	Average Per Capita Earnings on Large Farms	Percent of Total Earned on Large Farms	Average Per Capita Total Income
1-50	31	2.5	$31.39	73.4	$11.36	28.6	$42.75
51-100	39	3.5	32.65	57.2	22.29	42.8	54.94
101-150	16	3.6	25.51	40.2	37.93	59.8	63.44
151-200	10	2.5	24.76	29.9	57.99	70.1	82.75
201-250	10	3.6	33.64	28.3	58.23	81.7	81.87
251-365	3	5.3	.75	1.1	70.28	98.9	71.03
Average	109	3.3	$28.26	47.0	30.78	53.0	$59.04

[a] Only those cases are included in which the worker had income from his own farming activities.

Source: Schmid, op. cit., pp. 262-263.

There are several possible reasons why the workers do not contract for longer periods of time and fail to make fuller use of the time not used on the home farms in order to work on large farms. The evidence from this study indicated that many workers desired longer contracts, but were offered only 30 days in most cases, or 60 days in other cases, despite assertions by many employers that they wanted the workers to work for longer periods of time. There would be gains to employers if laborers worked for longer periods of time, since they would probably have less transportation expense. However, uncertainty as to the exact future labor needs probably prevents the employers from contracting workers for much longer periods.[20] From the point of view of the workers, uncertainty as to yields of the crop and therefore daily earnings of the workers would act to discourage longer contracts.[21]

Considering the time available, it is possible, on an annual basis, for many workers to enter several 30- to 60-day work contracts per year. Some do this, but apparently the majority do not. There may be several reasons for this: (1) since the work on the large fincas is seasonal, there are seasons of the year during which labor requirements are low; (2) some months the small farmer has to work on his home farm for several days during each 30-day period. Since synchronization of field work with weather conditions is important, the small farmer could lose more by neglecting a few days' work than he could gain in a full month's work as a laborer on the large finca.

Employers may be partly right in taking the view that migratory workers have limited wants. They are accustomed to eating little

more than tortillas and beans, wearing no underclothing or shoes, and living in homes with dirt floors and thatched roofs and without windows. However, the demand for some purchased items such as flashlights, radios and bicycles seems to be growing among the workers.

While the money earned in migratory work is clearly an advantage for the workers, such earning must be balanced against the factors of a less pleasant climate in areas of large farms--especially cotton farms, separation from their families, and reduced educational opportunities for the children who accompany their fathers to the large fincas. There is also the very real risk of contracting a disease or suffering from insecticide poisoning.

Implications for Policy

Employers are reluctant to make investments in houses, schools, and facilities for seasonal workers. This reluctance is easy to understand, since they hire workers for as little as 30 days at a time and do not hire the same workers year after year. Even if it were possible to improve the housing and diet of the workers, their health and working capacity could hardly improve substantially in that length of time. The same is true with regard to the furnishing of medicines and medical care. However, data from this study show that, in general, the farms which paid the highest wages (including perquisites) and had the best housing for the workers also had the lowest per unit labor costs, since the workers were more productive. This was true for both cotton and coffee farms.

Migratory work has been shown to have advantages for the employers, for economic development, and to a lesser extent for the workers. The latter, however, must live under poor conditions and wages are low. The following suggestions are made to help eliminate the detrimental effects of seasonal employment and to enable the workers to share more fully in the advantages of seasonal work.

The failure of farm owners to invest in even minimum standard housing facilities for their workers calls for the government to encourage the owners to do so. This might be done by stipulating standards of housing, health care, education, sanitation, and diet, and then employing incentives to obtain compliance with these standards, with enforcement of the standards when voluntary compliance cannot be obtained. In addition, the government may have to make investments in the home communities of these workers to bring their state of health, nutrition, and education up to the level of other rural people.

The most important action that the government could take to increase the welfare of the migratory workers is to increase their earnings in their home communities. This not only would benefit them directly but also make it possible for some of them to quit working on the large fincas, thus strengthening their bargaining power.

One way to do this is to increase household industry and other nonfarm employment in the home communities.

This not only would increase the workers' income, but also would take advantage of workers' time which is not now being utilized by working on either the large fincas or their own farms.

In most communities, the principal method of increasing incomes in the home communities is by increasing agricultural production and facilitating the marketing of products. Production can be increased by introducing improved methods, such as the use of fertilizers, insecticides, improved seeds, irrigation, and diversification, a fact that is being demonstrated in many areas of Guatemala. In communities where the increased production has taken place on a sufficiently large scale, it has resulted in more demand for both agricultural labor and non-agricultural labor within the community, and a lessening of dependence upon seasonal labor as a source of income.

FOOTNOTES

1/ Lester Schmid, "The Role of Migratory Labor in the Economic Development of Guatemala," Ph.D. thesis (Madison, Wisconsin: The University of Wisconsin, 1967); W. Arthur Lewis, "Economic Development Within Unlimited Supplies of Labor," The Manchester School of Economic and Social Studies, Vol. 22, May 1954.

2/ Lewis, ibid., p. 283.

3/ Ibid., p. 281.

4/ Gerald M. Meier, Leading Issues in Development Economics (London: Oxford University Press, 1964). Quote from Jacob Viner, "Some Reflections on the Concept of 'Disguised Unemployment,'" in Contribuições a Análise do Desenvolvimiento Económico, (Río de Janeiro: Livraria Agir Editora, 1957).

5/ William J. Barber, The Economy of British Central Africa (Stanford, California: Stanford University Press, 1961), p. 182.

6/ Ibid., p. 183.

7/ See Valentín Solorzano, Evolución Económica de Guatemala, (Guatemala: Ministerio de Educación, 1963), pp. 51-60, for an account of how the Indians were forced to work on the large farms through the device of the encomienda. Also see Alfonso Bauer-Paiz, Catalogación de Leyes y Disposiciones de Trabajo de Guatemala del Período de 1872 a 1930 (Guatemala, Instituto de Investigaciones Economicas y Sociales, 1965),

p. 82, for an example of one of the laws of mandamientos (1876) authorizing departmental authorities to send Indians to the fincas to work. See Bauer-Paiz, pp. 91 and 101, for examples of the vagrancy laws which forced the Indians with little or no land of their own to work on the large farms.

8/ Classified either as employers or employees, so it is assumed that most were probably engaged in large-scale agriculture.

9/ George W. Hill and Manuel Gollás, unpublished material from a study entitled, "The Minifundia Economy and Society of the Guatemalan Highland Indians," the University of Wisconsin, manuscript in progress.

10/ Schmid, op. cit.

11/ Hill and Gollás, op. cit.

12/ Schmid, op. cit. Currency values are in U.S. dollars.

13/ Hill and Gollás, op. cit.

14/ W. Arthur Lewis, "A Review of Economic Development," American Economic Review, Vol. LV, No. 2, May 1965, pp. 1-16.

15/ This work requirement was established from the Hill-Gollás data (op. cit.), Wagley's study (Charles Wagley, "Economics of a Guatemalan Village," Memoirs of the American Anthropological Association, Menasha, Wisconsin, No. 58, 1941), and from conversations with campesinos in 1965-66, all three of these sources being in substantial agreement.

16/ Sol Tax, El capitalismo del centavo: una economía indígena de Guatemala (Guatemala, Seminario Integración Social Guatemalteca, 1964), p. 531.

17/ Ibid.

18/ Hill and Gollás, op. cit.

19/ This average is probably below the true average for all migratory workers, since the method of selection drew out those who had worked longest on the fincas. Hill-Gollás found that 85 percent of the workers spent less than 90 days on the large farms.

20/ The contract for a certain number of days' work is often made in advance to assure the availability of laborers.

21/ Since the workers are generally employed on a piece-work basis, earnings drop when they are able to pick less per day unless the rate is increased sufficiently to compensate.