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WORKING DOCUMENT SERIES

# CARIBBEAN REGIONAL

GENERAL WORKING DOCUMENT #3

## A SURVEY OF THE LITERATURE ON INCOME DISTRIBUTION AND THE FULFILLMENT OF BASIC HUMAN NEEDS IN THE CARIBBEAN REGION*

*Antigua, Barbados, Belize, British Virgin Is., Cayman Is., Dominica, Grenada, Montserrat, St. Kitts-Nevis-(Anguilla), St. Lucia, St. Vincent, Turks & Caicos Is.

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Sector Analysis Internalization Group
Office of International Cooperation
and Development
U.S. Department of Agriculture

September 1978

Rural Development Division
Bureau for Latin America and the Caribbean
Agency for International Development

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# PREFACE

Most of the data discussed in this survey were reviewed in an earlier document (Zuvekas 1978b) which presented a "profile" of small farmers in the Caribbean Region */ but was not intended to provide much interpretation or analysis. The present document, which focuses on income distribution and levels of living in both rural and urban areas, discusses the significance of the data in more detail. It also examines income distribution policy and makes suggestions for additional research on income and levels of living.

The information in this document comes primarily from the 1960 and 1970 population censuses of the Commonwealth Caribbean, agricultural censuses undertaken between 1971 and 1975, and the following small-farmer surveys (see References for full citations):

| Author | Countries |
|---|---|
| Antigua (1977) | Antigua |
| Brierley (1974) | Grenada |
| Mills (1976) | St. Kitts |
| Momsen (1970) | Barbados, St. Lucia, (Martinique) |
| Weir's Ltd. (1976) | Dominica, Montserrat, St. Vincent |
| Yankey (1969) | Dominica |

*/ Defined operationally by AID as comprising the smaller English-speaking states in the Caribbean, viz., Antigua, Barbados, Belize, British Virgin Islands, Cayman Islands, Dominica, Grenada, Montserrat, St. Kitts-Nevis-(Anguilla), St. Lucia, St. Vincent, and the Turks and Caicos Islands.

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## I. INTRODUCTION

During the 1970s economists have become less concerned with economic growth -- as measured by per capita GNP -- and more concerned with economic development, or how the benefits of growth are distributed among a country's people. We can no longer assume that the benefits of growth will automatically "trickle down" to everyone. Specific policies and programs are needed to ensure that the poorest segments of the population will benefit from growth.

Development is now generally defined in terms of progress towards reducing the incidence of poverty, unemployment, and income inequalities. In the last few years, strategies promoting development have become widely referred to as "basic needs" strategies. As defined by Francis Blanchard, Director-General of the International Labour Office (ILO 1977:7), basic needs are

> the minimum standard of living which a society should set for the poorest groups of its people. The satisfaction of basic needs means meeting the minimum requirements of a family for personal consumption: food, shelter, clothing; it implies access to essential services, such as safe drinking-water, sanitation, transport, health and education; it implies that each person available for and willing to work should have an adequately remunerated job. It should further imply the satisfaction of needs of a more qualitative nature: a healthy, humane and satisfying environment, and popular participation in the making of decisions that affect the lives and livelihood of the people and individual freedoms.

Other things equal, the higher is a country's per capita income, the more it is capable of meeting the basic needs of its people. But per capita figures are notoriously deficient even as indicators of economic growth,[1/] and they tell us little about how aggregate GNP is

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[1/] For a brief summary of these problems, see Zuvekas (1979: Ch. 1).

distributed among a country's population -- i.e. the extent to which a country's resources actually are used to help meet basic needs. Income distribution data can give us some clues about how well basic human needs are being met, but the usefulness of these data is limited both by statistical problems of measurement and by theoretical problems of interpretation.[2/] Thus income distribution data should be supplemented with various basic needs indicators, though the limitations of these indicators should also be kept in mind.

In the Caribbean Region, income figures from national accounts tables, censuses, and sample surveys are generally of poor quality. Detailed national accounts data are not even available on an annual basis for some countries, and in these cases per capita income figures are only rough estimates. Survey data tend to underestimate real household income, giving the impression that levels of living of small farmers in some countries are as low as in Haiti or the Andean highlands of South America. Survey data also imply that aggregate income distribution is very unequal.

An examination of other level-of-living indicators suggests that this picture is very misleading. The basic human needs of both rural and urban populations appear to be fulfilled to a higher degree than in most other Latin American and Caribbean countries. Nevertheless, living standards for most people are still well below what is desirable, and in a number of countries they have deteriorated during the 1970s.

Part II of this document reviews data on income and income distribution and explains why these data are not good indicators of living standards or changes in living standards over time. In Part III we examine briefly the disbribution of agricultural land, since this form

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[2/] See Zuvekas (1975) and Zuvekas (1979: Ch. 11).

of wealth is an important determinant of present and future farm incomes. Part IV provides data for level-of-living indicators other than income and wealth. In Part V we comment briefly on government policies that directly or indirectly have affected income distribution. Finally, in Part VI, we present several suggestions for research to provide better data on income, income distribution, and other level-of-living indicators.

## II. INCOME AND INCOME DISTRIBUTION STATISTICS

### 1. National Accounts Data

During the 1960s economic growth in the Caribbean Region was very rapid. Except in Belize, where per capita GNP increased at a modest annual rate of 1.9%, growth rates ranged from 3.4% in Barbados and St. Vincent to 8.1% in St. Lucia (see Table II.1). Increased tourism played a major role in the expansion of the Eastern Caribbean economies during the 1960s, though other economic activities, including banana production in the Windward Islands, also were important factors.

Economic trends during the 1970s have been very different. Between 1970 and 1975 per capita GNP rose only in Barbados and Belize, at a mediocre annual rate of 1.3-1.5%. In the Windwards and Leewards it declined in all countries, particularly in Grenada. In 1976 Grenada began a strong recovery, and the other Windwards experienced modest gains; but in the Leewards per capita GNP continued to fall. Reasons for poor economic performance during the 1970s vary, but among the more important factors have been increasingly uncompetitive sugar production, adverse price trends for other export crops, social and political unrest, drought, stagnation or decline in tourist arrivals, and sharply rising prices for imported fuel.

In 1976 per capita GDP at factor cost in the Caribbean Region (excluding the British Virgin Islands, Cayman Islands, and Turks and Caicos Islands) [1/] ranged from US$320 in St. Vincent to US$1,530 in Barbados. The regional average of US$800 was below the Latin American/Caribbean average

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1/ Per Capita GDP in the Cayman Islands is believed to be higher than in Barbados; in the British Virgin Islands, greater than the regional average; and in the Turks and Caicos Islands, less than the regional average.

Table II.1

Rates of Growth of Real Per Capita GNP, 1960-70 and 1970-75, Real Per Capita GDP, 1976; and Per Capita GDP at Market Prices, 1976

| | Real Annual Per Capita Rates of Growth (percent) | | | Per Capita GDP at Market Prices, 1976[a] |
|---|---|---|---|---|
| | GNP 1960-70 | GNP 1970-75 | GDP 1976 | |
| Barbados | 3.4 | 1.3 | 3.6 | 1,530 |
| Windward Islands | | | | |
| Dominica | 3.7 | -1.3 | 1.7 | 330 |
| Grenada | 5.6 | -7.3 | 11.2 | 420 |
| St. Lucia | 8.1 | -2.2 | 0.8 | 510 |
| St. Vincent | 3.4 | -2.3 | 0.5 | 320 |
| Leeward Islands | | | | |
| Antigua | 5.2 | -2.3 | -8.4 | 690 |
| Montserrat | n.a. | n.a. | n.a. | 820[b] |
| St. Kitts-Nevis | 4.9 | -1.5 | -0.7 | 640 |
| Belize | 1.9 | 1.5 | n.a. | 740[c] |

Sources: World Bank Atlas 1972 (1960-70); World Bank Atlas 1977 (1970-75); preliminary GDP estimates for 1976; population data as reported in Fiester et al. (1978: I-2).

[a]For the Windward and Leeward Islands, the U.S. dollar figures are based on the exchange rate of EC$2.70 = US$1.00 adopted in July 1976.

[b]Estimate of GDP at factor cost.

[c]Estimate based on a per capita GNP figure in 1975 of US$670 (1975 prices).

of US$1,030.

National accounts data are generally of poor quality and in some countries are not even available. Where these data do exist, the estimates are crude and not always available on an annual basis. This means that the reported data on both GNP levels and trends must be regarded cautiously. Still, it is clear that economic conditions have deteriorated during the 1970s for most countries in the region.

It is not possible to determine from the national accounts data how the decline in per capita income since 1970 has affected various income groups. Time series data on the functional distribution of income (i.e, wage-and-salary vs. property income) are not available.

2. Census Data and Other Data on Income Distribution

Data on the size distribution of income are of poor quality. The 1970 census provides disaggregated data for various income ranges by occupational and industrial group, further disaggregated in the latter case by parish or other political subdivision. However, there are so many problems with these data that it is pointless to convert them into Gini coefficients or other measures of income inequality. The major problems include the following:

1. The data are for individuals rather than households and as such constitute a relatively poor indicator of welfare.

2. Income data were not collected for uniform periods of time. Individuals reported income for various periods -- weeks, fortnight, month, quarter, or year. Though adjustments were made according to the number of months worked, it is not clear that this procedure fully took into account seasonal variations in earnings.

3. "The income specified," to quote the census document (UWI/CRP

1976: Vol. 10, Part IV, p. vii), "is the gross income from all sources in the case of salaries or wages received by paid employees, and is intended to include all extra earnings in the form of overtime, bonuses and allowances of any kind. The income reported is supposed to represent the total before deductions are made in respect of taxes or any other form. The second type of income represents the gross receipts of own account workers and employers. Here once more what is sought is gross income from businesses, farms and all types of enterprises before any deductions are made, whether in respect of taxes or any other form." This procedure introduces an upward bias into the income estimates, a bias that will vary according to the relative importance of purchased inputs for farmers and other own-account workers. Offsetting this bias, however, are several downward biases in reported income.

4. It appears from the statement quoted above that income not related to current work effort (e.g. pensions, remittances) is not included in the estimates. Remittances, as we demonstrate below, are a very important source of income in the Caribbean Region, and in O'Loughlin's view (1968: 129) "they would represent a considerably greater percentage of the cash incomes of the poorer households [than of the more affluent households]."

5. A high percentage of the respondents, especially women, are in the "No income or no response" category. It is not possible to determine how many of these individuals actually received no income and how many did not wish to respond to the question. Discussions with several knowledgeable persons suggests that the percentage earning some income but not responding may be significant.

6. The open-ended category, at least in the higher-income countries, starts at a rather low income level. It is not possible to determine the

mean of this category, and the Gini coefficient would be sensitive to alternative guesses.

Bearing in mind these problems, let us briefly examine these data (see Table II.2). For the Windward and Leeward Islands, at least 42-57 percent of the adult males not in school had earnings of less than EC$1,500 (US$750 at the 1970 exchange rate of EC$2.00 = US$1.00). The percentages with incomes below this level are even greater if we include persons with no income, who unfortunately cannot be separated from those not responding to the income question. For a family of 4 (the average in the Windwards and Leewards in 1970 was 4.5), per capita income for these low-income groups was less than US$190 if we assume that there was only one (male) income earner in the family. Women also contribute to family cash income, but significantly less than men. Unfortunately, the data do not tell us how household cash earnings are distributed.

In all of the Windwards and Leewards except Montserrat, fewer than 5 percent of the adult male workers earned EC$4,000 (US$2,000) a year or more, and again except for Montserrat fewer than 1 percent of the adult females had income this high. The higher figures for Montserrat are explained in part by a higher level of per capita income, but it also appears that relatively more people were willing to provide information on their incomes.

In Belize the distribution of earnings is similar to that in the Windwards and Leewards. In Barbados income levels are significantly higher, but the distributional pattern likewise appears to be similar to that in the Windwards and Leewards. In the smaller states (British Virgin Islands, Cayman Islands, and Turks and Caicos Islands) the distribution of income seems to be more equal.

Household income distribution data for 1970 are available for Dominica,

Table II.2

The Distribution of Individual Income, by Income Level and Sex, 1970
(percentage in each category)

A. Adult Males Not in School

| Income Category (annual income in local currency) | Barbados | Dominica | Grenada | St. Lucia | St. Vincent | Antigua | Montserrat | St. Kitts | Belize | British Virgin Is. | Cayman Is. | Turks & Caicos Is. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Less than 500 | 1.4 | 11.5 | 6.3 | 11.0 | 14.1 | | 9.1 | 7.1 | 9.2 | 2.3 | 1.7 | 3.4 |
| 500- 999 | 6.5 | 30.7 | 26.1 | 29.5 | 29.6 | | 11.9 | 21.9 | 18.0 | 2.8 | 3.8 | 14.9 |
| 1,000-1,499 | 14.1 | 15.1 | 16.7 | 14.7 | 12.3 | | 21.0 | 24.5 | 22.1 | 2.9 | 7.7 | 19.6 |
| 1,500-1,999 | 17.5 | 8.2 | 8.1 | 7.7 | 6.6 | | 13.4 | 11.5 | 14.6 | 6.7 | 15.4 | 9.6 |
| 2,000-2,499 | 14.0 | 4.6 | 5.8 | 4.8 | 3.2 | | 8.8 | 5.4 | 6.8 | 14.9 | 16.3 | 9.4 |
| 2,500-2,999 | 4.7 | 2.3 | 1.9 | 2.5 | 1.2 | | 6.5 | 2.4 | 2.6 | 12.6 | 8.2 | 4.0 |
| 3,000-3,499 | 2.6 | 1.5 | 1.6 | 1.5 | 1.1 | | 4.1 | 1.8 | 1.9 | 13.4 | 6.9 | 4.0 |
| 3,500-3,999 | 1.9 | 1.1 | 1.0 | 1.2 | 0.9 | | 2.0 | 1.1 | 1.2 | 8.2 | 4.7 | 1.3 |
| 4,000-4,499 | 1.2 | 0.7 | 0.8 | 0.7 | 0.5 | n.a. | 1.3 | 0.9 | 0.8 | 5.2 | 4.3 | 1.2 |
| 4,500-4,999 | 1.1 | 0.7 | 0.6 | 0.7 | 0.4 | | 1.0 | 0.6 | 0.6 | 3.5 | 2.3 | 0.7 |
| 5,000-5,999 | 1.2 | 0.8 | 0.5 | 0.8 | 0.4 | | 1.4 | 0.6 | 0.9 | 3.1 | 4.2 | 2.1 |
| 6,000-6,999 | 1.4 | 0.6 | 0.6 | 0.6 | 0.5 | | 1.1 | 0.6 | 0.7 | 3.1 | 2.2 | 0.7 |
| 7,000-7,999 | 0.8 | 0.5 | 0.4 | 0.4 | 0.3 | | 0.8 | 0.3 | 0.4 | 3.2 | 1.7 | 0.6 |
| 8,000-8,999 | 0.5 | 0.3 | 0.2 | 0.2 | 0.2 | | 0.5 | 0.2 | 0.2 | 1.1 | 0.9 | 0.2 |
| 9,000 & over | 2.2 | 0.9 | 0.9 | 1.1 | 0.5 | | 2.3 | 1.1 | 1.7 | 4.5 | 2.5 | 2.5 |
| No income or not stated | 28.7 | 20.6 | 28.7 | 22.5 | 28.2 | | 14.8 | 20.1 | 18.1 | 12.5 | 17.2 | 25.7 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Table II.2
(continued)

B. Adult Females Not in School

| Income Category (annual income in local currency) | Barba-dos | Domi-nica | Gre-nada | St. Lucia | St. Vincent | Anti-gua | Mont-serrat | St. Kitts | Belize | British Virgin Is. | Cayman Is. | Turks & Caicos Is. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Less than 500 | 3.0 | 12.3 | 11.4 | 12.8 | 16.6 | | 12.2 | 13.7 | 3.3 | 4.5 | 4.9 | 7.4 |
| 500- 999 | 14.5 | 15.5 | 14.5 | 11.8 | 8.4 | | 18.4 | 13.1 | 7.2 | 9.6 | 12.3 | 12.8 |
| 1,000-1,499 | 9.2 | 4.4 | 4.4 | 3.5 | 2.5 | | 7.1 | 4.6 | 3.9 | 4.5 | 7.2 | 5.4 |
| 1,500-1,999 | 4.7 | 1.6 | 1.9 | 1.6 | 1.2 | | 2.4 | 2.0 | 2.0 | 4.4 | 4.7 | 2.1 |
| 2,000-2,499 | 2.4 | 1.3 | 1.1 | 1.0 | 0.7 | | 1.7 | 1.2 | 0.8 | 6.6 | 3.8 | 1.4 |
| 2,500-2,999 | 1.1 | 0.5 | 0.5 | 0.7 | 0.4 | | 0.8 | 0.7 | 0.4 | 2.7 | 1.5 | 0.6 |
| 3,000-3,499 | 0.9 | 0.4 | 0.4 | 0.5 | 0.3 | | 0.9 | 0.5 | 0.3 | 2.0 | 0.8 | 0.1 |
| 3,500-3,999 | 0.8 | 0.4 | 0.3 | 0.4 | 0.2 | | 0.6 | 0.3 | 0.2 | 1.5 | 0.1 | 0.1 |
| 4,000-4,499 | 0.4 | 0.1 | 0.2 | 0.2 | 0.1 | n.a. | 0.4 | 0.3 | 0.1 | 1.1 | 0.2 | 0.1 |
| 4,500-4,999 | 0.4 | 0.2 | 0.1 | 0.1 | 0.1 | | 0.3 | 0.2 | 0.1 | 0.9 | 0.2 | 0.1 |
| 5,000-5,999 | 0.4 | 0.2 | 0.1 | 0.1 | 0.1 | | 0.4 | 0.1 | 0.1 | 0.8 | * | 0.3 |
| 6,000-6,999 | 0.5 | 0.1 | * | 0.1 | * | | 0.2 | 0.1 | 0.1 | 0.5 | 0.2 | 0.1 |
| 7,000-7,999 | 0.1 | * | 0.1 | * | * | | * | * | * | 0.3 | 0.1 | 0.0 |
| 8,000-8,999 | 0.1 | * | * | * | * | | 0.1 | * | * | 0.1 | 0.1 | 0.0 |
| 9,000 & over | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | | 0.3 | 0.2 | 0.1 | 0.2 | 0.1 | 0.0 |
| No income or not stated | 61.2 | 62.8 | 65.0 | 67.2 | 69.3 | | 54.3 | 63.0 | 81.3 | 60.2 | 63.7 | 69.6 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Source: UWI/CRP (1976: Vol. 10, Part IV).

* Less than 0.05.

but since 33% of the households did not state their income these data are of little use (see Dominica 1976: 61-62). Income data for Dominica were also collected in a sample survey during 1976, but the results are not available. Income distribution data for Montserrat are based on taxpayers' returns and thus exclude lower income households who file no returns. In summary, there seem to be no reliable data on income distribution, either at the national level or for rural areas.

Impressionistic evidence suggests that total household incomes in the Eastern Caribbean (cash and imputed) are distributed more equally than in most Central and South American countries. The decline (and in some cases disappearance) of plantation agriculture has tended to reduce the size and incomes of the more affluent rural groups, and government policies have consciously sought to provide a more equal distribution of income (or consumption of basic goods and services). Sugarcane workers in Barbados, St. Kitts-Nevis, and perhaps elsewhere have a guaranteed minimum annual income. The degree of inequality in the distribution of land varies, but especially if government-owned lands are excluded from the data Gini coefficients tend to be lower than in Central or South America (see Part III). Other level-of-living indicators, summarized below, suggest a relatively high degree of satisfaction of basic needs.

3. Farm-Level Surveys

A number of surveys and other studies provide data on farm income, but in general there are two serious problems with these estimates. First, farm income is usually reported on a gross cash basis, thus not taking into account production costs (which should be subtracted) and the imputed value of food produced and consumed on the farm (which should be added). [2/] Secondly, non-farm family income seems to be underestimated,

[2/] Other imputations, of course, should also be made in estimating total household income. But the only other imputation generally made in national income accounting is for the rental value of owner-occupied housing.

often significantly so. This is especially true for remittances, an important source of income for the region as a whole, to be discussed separately below. It also appears that some studies do not take into account earnings by family members other than the head of the household.

We present below, by country, income estimates for farm households collected in various years and sometimes by different methods. The limitations of these data, which will be pointed out, should be borne in mind.

a. Antigua

The Antiguan government's small farmer survey in 1976 (N = 100, with small farmers considered to be those with 15 acres or less) provides the following information on farm and off-farm income and income distribution (Antigua 1977:3):[3/]

| Income Level (EC$) | Gross Farm Income (number of households) | Off-Farm Income (number of households) |
|---|---|---|
| 0 - 500 | 39 | 41 |
| 501 - 1,000 | 31 | 12 |
| 1,001 - 2,000 | 16 | 12 |
| 2,001 - 3,000 | 4 | 10 |
| 3,001 - 5,000 | 7 | 11 |
| 5,001 -10,000 | 3 | 3 |
| No response | 0 | 11 |
| Total | 100 | 100 |

The fact that 70 percent of the farmers in the survey have gross cash incomes from farm operations of EC$1,000 (US$370)[4/] or less suggests that part-time farming in Antigua is much more important than full-time farming. It is important to know if off-farm income tends to be higher the lower is gross farm income, but this information is not provided and the only way to obtain it would be to go directly to the questionnaires. It should be noted that 11% of the farmers provided no information on

[3/] Since these data refer only to small farmers, they cannot be used to indicate income distribution patterns in agriculture generally.

[4/] Based on an exchange rate of EC$2.70 = US$1.00 (beginning July 1976).

off-farm income, though all of them were willing to provide data on farm income. The latter, as we have noted, is unfortunately on a gross cash income basis, with production costs not deducted. No imputations are made for on-farm consumption and housing, and real income levels are thus underestimated. It is not clear whether income from remittances or pensions is included.

b. Belize

Cacho (1967: 126) refers to a 1966 survey which found that average family income in rural Belize was TT$576, or about TT$115 (US$67) per capita, compared with a national average of TT$524 (US$306) per capita in 1964.[5/] Unfortunately, there is no indication of (1) how the rural income estimate was made, (2) whether it includes imputed income and off-farm income, and (3) whether farm income is computed on a gross or net basis.

c. Dominica

A survey of small farmers (those with less than 25 acres) by Weir's Ltd. (1976: I(b), 125) in November-December 1975 (N = 100) provides the following data on gross (cash) farm income and non-farm income:

| Income Level (EC$) | Gross Farm Income | | | Off-Farm Income |
|---|---|---|---|---|
| | Total | Crops | Livestock | |
| | (number of households) | | | |
| Less than 250 | 13 | 13 | 21 | 16 |
| 251 - 500 | 10 | 12 | 2 | 5 |
| 501 - 750 | 17 | 13 | 3 | 1 |
| 751 - 1,000 | 10 | 12 | 2 | 0 |
| 1,001 - 1,500 | 12 | 8 | 1 | 1 |
| 1,501 - 2,000 | 8 | 7 | 0 | 1 |
| 2,001 - 3,000 | 10 | 11 | 0 | 0 |
| 3,001 - 5,000 | 7 | 7 | 0 | 1 |
| 5,001 - 10,000 | 3 | 3 | 0 | 0 |
| More than 10,000 | 2 | 1 | 0 | 1 |
| Can't say/no answer | 8 | 11 | 48 | 2 |
| None | 0 | 4 | 22 | 20 |
| Total | 100 | 100 | 100 | 100* |

*Note that the figures in this column add only to 48. Apparently the remaining 52 farmers either had no off-farm income or provided no information.

5/ Based on an exchange rate of TT$1.71 = US$1.00 in 1966.

These data show that 50% of the farm households in the survey--and 63% of those with only 1-5 acres--had gross cash incomes from farm operations of EC$1,000 (US$500) or less,[6/] or no more than US$78 per capita, based on an average household size of 6.4 as estimated from data in the survey. However, these data are subject to all the limitations of those collected in the Antigua survey (see above). In addition, an examination of the questionnaire suggests that no information was requested on remittance or pension income or on income received by family members other than the head of household. On balance, the income estimates in this survey, and in companion surveys in Montserrat and St. Vincent, seem to significantly underestimate small farmer household income.

d. Grenada

Summary data from the 1974-75 census (the questionnaires from which were destroyed in a fire before much analysis was done), show that nearly 60% of the country's farm operators received most of their income from non-farm sources:

| | N | % |
|---|---|---|
| All income derived from farm holding | 4,398 | 35.0 |
| Income derived mainly from farm holding | 699 | 5.6 |
| Income derived mainly from non-farm activities | 7,468 | 59.4 |
| Total | 12,565 | 100.0 |

No information was obtained on income amounts, and it is not clear whether farm income refers to gross cash income or some other measure.

e. Montserrat

Unpublished data from the 1972 agricultural census show that slightly more than half of Montserrat's farm operators (N = 1,232) derived most of their income from farming:

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[6/] Based on the exchange rate of EC$2.00 = US$1.00 prevailing at the time. The current rate is EC$2.70 = US$1.00.

| Source of Most Income | Number of Farmers | Percent |
|---|---|---|
| Own farm | 628 | 50.9 |
| Working on other farm | 14 | 1.1 |
| Non-farm activities | 590 | 48.0 |
| Total | 1,232 | 100.0 |

As would be expected, landless farmers and those with less than one acre were more dependent on off-farm income than farmers with more land:

| Size of Holding (acres) | Number of Farmers | Percent Deriving Most Income from Own Farm |
|---|---|---|
| Landless | 88 | 23.9 |
| Less than 1.00 | 548 | 40.3 |
| 1.00 - 4.99 | 489 | 64.4 |
| 5.00 - 9.99 | 66 | 72.7 |
| 10.00 - 24.99 | 26 | 61.5 |
| 25.00 - 49.99 | 6 | 83.3 |
| 50.00 - 99.99 | 2 | 50.0 |
| 100.00 - 199.99 | 2 | 0.0 |
| 200.00 - 499.99 | 3 | 33.3 |
| 500.00 and above | 2 | 0.0 |
| Total | 1,232 | 50.9 |

No income data are provided, and the definition of income used is not clear.

The Weir survey (1976:I(b), 29-32) provides the following data on gross (cash) farm income in 1975:

| Income Level (EC$) | Gross Farm Income: Total | Crops | Livestock |
|---|---|---|---|
| | (percent of households) | | |
| Less than 250 | 15 | 41 | 23 |
| 250 - 500 | 8 | 16 | 15 |
| 501 - 750 | 38 | 25 | 0 |
| 751 - 1,000 | 15 | 9 | 8 |
| 1,001 - 1,500 | 8 | 0* | 0 |
| 1,501 - 2,000 | 8 | 0* | 0 |
| 2,001 - 3,000 | 0 | 0* | 0 |
| 3,001 - 5,000 | 0 | 0* | 0 |
| 5,001 - 10,000 | 0 | 0 | 0 |
| More than 10,000 | 0 | 0* | 0 |
| Can't say/no answer | 8 | 9 | 31 |
| None | 0 | 0 | 23 |
| Total | 100 | 100 | 100 |

*The breakdown by size of farm, however, shows some farmers to be in these categories. Unfortunately, the data are in percentages (by size of farm); the number of farmers in each cell is not reported, and it is sometimes not clear how the numbers were rounded off to obtain percentages.

These data show that 76% of the farm households surveyed received no more than EC$1,000 (US$500) from farming in 1975. Given an average household of 5.0 persons, gross per capita cash income from farming would be US$100 or less for three-fourths of the farm households. Note, however, that 31% of those surveyed provided no information on earnings from livestock operations. Few farmers were reported to have any off-farm income, though 2 (?) of the 7 in the 5-10 acre category reported off-farm incomes between EC$750 and EC$1,500. The data have the same limitations as those collected in the authors' survey in Dominica, discussed above.

f. St. Vincent

The Weir survey of St. Vincent (1976:I(b), 84) provides the following data on gross cash income and income from other sources (N = 97):

| Income Level (EC$) | Gross Farm Income | | | Off-Farm Income |
|---|---|---|---|---|
| | Total | Crops | Livestock | |
| | (percent of households) | | | |
| Less than 250 | 7 | 13 | 29 | 7 |
| 250 - 500 | 16 | 17 | 5 | 1 |
| 501 - 750 | 10 | 9 | 4 | 0 |
| 751 - 1,000 | 15 | 12 | 2 | 1 |
| 1,001 - 1,500 | 16 | 18 | 2 | 0 |
| 1,501 - 2,000 | 6 | 6 | 0 | 0 |
| 2,001 - 3,000 | 13 | 9 | 1 | 0 |
| 3,001 - 5,000 | 5 | 2 | 0 | 0 |
| 5,001 - 10,000 | 2 | 2 | 0 | 0 |
| More than 10,000 | 1 | 1 | 0 | 0 |
| Can't say/don't know | 9 | 10 | 33 | 6 |
| None | 0 | 0 | 24 | 12 |
| Total | 100 | 100 | 100 | 100* |

*The figures actually add to only 27 percent. Presumably the remaining 73 percent reported no off-farm income.

These data show that 48% of those surveyed--and 61% of those with only 1-5 acres, received gross cash incomes of no more than EC$1,000 (US$500) from farming. Given an estimated average household size of 6.9, this amounts to no more than US$72 per capita. One-third of the farmers, however, provided no information on income from livestock

operations, and the number of households having off-farm income is probably significantly higher than reported. These income data have the same limitations as those for Dominica and Montserrat.

4. Emigrants' Remittances

The sociological and anthropological literature on the Caribbean Region, as well as estimates by economist Carleen O'Loughlin (1968), suggest that emigrants' remittances are important components of income that farm-level surveys generally record incompletely, if at all. Data on remittances, it is true, are usually aggregate national figures, and little is known about the distribution of remittance income among households within a country. O'Loughlin (1968:129), as we noted earlier, believes that remittances are relatively more important for poorer households than for the more affluent, but data are not available to check this hypothesis. It seems likely, though, that a large percentage of households receive income from their relatives overseas, and that these transfers tend to make the distribution of income more equal. This is still only a hypothesis, however, based on (1) evidence in the sociological and anthropological literature, (2) statistical evidence provided by level-of-living indicators other than income, and (3) casual observation of living conditions in rural areas. Research is needed to test this hypothesis by obtaining more comprehensive data on household income than hitherto has been collected.

Table II.3 presents estimates of remittance income derived from various sources. Usually, the estimates are based on data on the volume of postal and bank money orders and other bank transfers. Remittance income transferred in other ways, e.g. in person, during return visits by emigrants, is thus not recorded. Also not recorded are pension checks

Table II.3

Estimates of Remittance Income, Various Years, 1961-1977

| Country and Source of Estimate | Year of Estimate | Remittances as a % of Total Income | Aggregate Remittances (local currency units) | Per Capita Remittances (local currency units) | Per Capita U.S. Dollar Equivalent (current prices) | Comments |
|---|---|---|---|---|---|---|
| Leewards and Windwards (combined) | | | | | | |
| O'Loughlin (1968:87) | 1964 | 3.7[a] | EC$5,500,000 | EC$12 | 7 | |
| Anguilla | | | | | | |
| Fiester et al.(1978:ANG-1) | 1977 | 33.3[b] | n.a. | n.a. | n.a. | Qualitative judgement |
| Barbados | | | | | | |
| Manners (1965:190) | 1962 | 6.7[c] | BWI$7,900,000 | BWI$34 | 20 | |
| Carriacou (Grenada) | | | | | | |
| Richardson (1975) | 1972 | n.a. | n.a. | n.a. | 92 | |
| Montserrat | | | | | | |
| Lowenthal-Comitas (1962) | 1961? | 20-25[b] | n.a. | n.a. | n.a. | Qualitative judgement? |
| Manners (1965:191) | 1962 | 14.7[d] | BWI$530,000 | BWI$44 | 25 | |
| St. Kitts-Nevis-(Anguilla) | | | | | | |
| Manners (1965:191) | 1962 | 7.7[d] | BWI$1,652,000[f] | BWI$34 | 20 | All 3 islands |
| Frucht (1968) | 1966 | n.a. | BWI$ 330,000[f] | BWI$27 | 16 | Nevis only |
| Fiester et al.(1978:I-13) | 1977 | 16+[e] | EC$13,900,000 | EC$290 | 107[g] | St. Kitts and Nevis |
| St. Vincent | | | | | | |
| Manners (1965:191) | 1962 | 6.5[d] | BWI$1,521,000 | BWI$19 | 11 | |

Notes to Table II.3

Sources: As indicated in the table.

[a]As a percent of national income.

[b]Aggregate income concept not clear. In Montserrat remittances were reported to be "almost one-quarter" of income.

[c]As a percent of personal income.

[d]As a percent of GDP at market prices, as reported in O'Loughlin (1968: 94).

[e]Based on partial (7-month) unpublished data for bank transfers identified as remittances.

[f]According to Manners (1965:131) Frucht found that remittances in Nevis had reached a high of EC$512,000 in 1961.

[g]Converted at the 1977 exchange rate of EC$2.70 = US$1.00.

received by returned migrants from the U.K., U.S., Canada, and elsewhere. These transfers, shared with family members and other relatives, can be regarded as delayed remittances. How important these other forms of transfers might be is not known. But it seems reasonable to conclude that remittance income is almost always underestimated.

## III. THE DISTRIBUTION OF AGRICULTURAL LAND

Income distribution is determined to a large extent by the distribution of wealth, which has always been found to be even more unequally distributed than income. Typically, the only readily available information on the distribution of wealth in developing countries is that for agricultural land. In the Caribbean Region, as may be seen in Table III.1, the great majority of farmers, except in Belize, have holdings of less than 5 acres. The predominance of smallholdings is particularly striking in the two principal sugar exporting countries of the Eastern Caribbean, Barbados and St. Kitts, where more than 95% of the holdings with land are less than 5 acres and 60-72% are less than one acre (see Table III.2). 1/

The number of medium-sized holdings is relatively small. In the Eastern Caribbean no more than 2.5% of all farm units are between 25 and 100 acres, and in at least 4 countries the figure is less than 1.0%. Only in Dominica and St. Lucia do medium-sized holdings account for as much as 10-15% of all land in farms. In Belize, where medium-size holdings may be considered as those having 50-200 acres, 11.5% of all farms, accounting for 15.1% of all farm land, can be so classified.

Ther percentage of land in large holdings (100 acres and above in the Eastern Caribbean, 200 acres and above in Belize) ranges from 42.2% in St. Kitts-Nevis to 82.9% in Barbados. In general, the distribution of land in the Caribbean Region countries is not as skewed as in the Andean countries of South America. Though for all Caribbean Region countries the data in Table III.2 yield a Gini coefficient of at

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1/ In examining the distribution of land, it is not realistic to consider as part of the farm population the so-called "landless" farmers who keep a few head of livestock, since farming is not their principal activity and often not even a major source of income.

Table III.1

The Distribution of Agricultural Land
(number of farm units, by size of farm)

| | Size of Farm (acres) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | No Land[b] | Less than 1.00 | 1.00-4.99 | 5.00-9.99 | 10.00-24.99 | 25.00-49.99 | 50.00-99.99 | 100.00-199.99 | 200.00-499.00 | 500.00 or More | All Farms |
| Barbados (1971) | 13,159 | 9,298 | 3,170 | 161 | 68 | 23 | 16 | 31 | 80 | 46 | 26,052 |
| Windward Islands | | | | | | | | | | | |
| Dominica (1972) | 462 | 1,921 | 3,556 | 1,170 | 601 | 91 | 58 | 38 | 45 | 26 | 7,968 |
| Grenada (1974/75) | d | 5,959 | 4,938 | 741 | 343 | 75 | 51 | 27 | 30 | 8 | 12,172 |
| St. Lucia (1973) | 502 | 4,730 | 3,828 | 1,082 | 475 | 199 | 58 | 19 | 26 | 19 | 10,938 |
| St. Vincent 1972/73) | 706 | 3,032 | 3,171 | 659 | 161 | 28 | 10 | 7 | 11 | 9 | 7,794 |
| Leeward Islands | | | | | | | | | | | |
| Antigua[a] (1973/74) | 461[a] | 1,098[a] | 729[a] | 81[a] | 23[a] | 7[a] | 12[a] | 13[a] | 12[a] | 13[a] | 2,449[c] |
| Montserrat (1972) | 88 | 551 | 496 | 66 | 28 | 6 | 3 | 3 | 4 | 2 | 1,247 |
| St. Kitts-Nevis (1975) | 999 | 2,036 | 1,222 | 125 | 26 | 10 | 25 | 28 | 25 | 28 | 4,524 |
| Belize (1973/74) | 407 | 1,149 | 1,552 | 1,401 | 2,074 | 1,498 | 688 | 342 | 145 | 80 | 9,367 |
| Total | 16,814 | 29,774 | 22,663 | 5,486 | 3,799 | 1,937 | 921 | 508 | 378 | 231 | 82,511 |

Sources: Agricultural censuses of the respective countries

[a]Data by farm size from the 1973/74 census are not available. According to a source in Antigua, farmers engaged in crop production had an average of only 1.5 acres. No figure was provided for livestock producers. The figures we use for Antigua are imputed figures based on the percentage in each farm-size category in the other Leeward Islands.

[b]Households having no land but keeping a few head of livestock.

[c]1970 population census data.

[d]Households classified as "landless" in other Caribbean countries appear to be classified in the "Less than 1.00 acre" group in Grenada.

Table III.2

Percentage Distribution of Land Area, by Farm Size Category[a]

| Farm Size Category | Barbados (1971) | | Dominica (1972) | | Grenada[b] (1974/75) | | St. Lucia (1973) | | St. Vincent (1972/73) | | Antigua (1973/74) | | Montserrat (1972) | | St. Kitts-Nevis (1975) | | Belize (1973/74) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | % of Farms | % of Area | % of Farms | % of Area | % of Farms | % of Area | % of Farms | % of Area | % of Farms | % of Area | % of Farms | % of Area | % of Farms | % of Area | % of Farms | % of Area | % of Farms | % of Area |
| 0.01- 0.99 | 72.1 | 4.4 | 25.6 | 1.2 | | | 45.3 | 2.4 | 42.8 | 3.8 | | | 47.5 | 3.7 | 60.2 | 8.2 | 12.9 | 0.1 |
| 1.00- 4.99 | 24.6 | 7.2 | 47.4 | 11.4 | | | 36.7 | 11.8 | 44.7 | 19.7 | | | 42.8 | 16.1 | 35.0 | 31.8 | 17.4 | 0.8 |
| 5.00- 9.99 | 1.3 | 1.4 | 15.6 | 10.2 | | | 10.4 | 9.8 | 9.3 | 11.8 | | | 5.7 | 7.5 | 3.3 | 8.1 | 15.7 | 1.5 |
| 10.00- 24.99 | 0.5 | 1.3 | 8.0 | 11.4 | | | 4.5 | 8.9 | 2.3 | 6.0 | | | 2.4 | 7.3 | 0.7 | 3.2 | 23.2 | 6.1 |
| 25.00- 49.99 | 0.2 | 1.1 | 1.2 | 4.9 | n.a. | n.a. | 1.9 | 8.7 | 0.4 | 3.0 | n.a. | n.a. | 0.5 | 3.2 | 0.1 | 0.4 | 16.8 | 8.6 |
| 50.00- 99.99 | 0.1 | 1.7 | 0.8 | 5.4 | | | 0.6 | 6.0 | 0.1 | 2.1 | | | 0.3 | 3.6 | 0.2 | 6.1 | 7.7 | 7.6 |
| 100.00-199.99 | 0.2 | 6.4 | 0.5 | 7.1 | | | 0.2 | 3.7 | 0.1 | 2.8 | | | 0.3 | 6.2 | 0.2 | 12.6 | 3.8 | 7.5 |
| 200.00-499.99 | 0.6 | 33.5 | 0.6 | 17.8 | | | 0.2 | 11.3 | 0.2 | 10.4 | | | 0.3 | 17.5 | 0.2 | 23.1 | 1.6 | 9.1 |
| 500.00 and over | 0.4 | 43.0 | 0.3 | 30.6 | | | 0.2 | 37.4 | 0.1 | 40.4 | | | 0.2 | 34.9 | 0.1 | 6.5 | 0.9 | 58.7 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | | | 100.0 | 100.0 | 100.0 | 100.0 | | | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Source: Agricultural censuses of the respective countries.

[a] Excludes farmers with no land.

[b] Complete data on land distribution were not available. It is reported, though, that 56% of the farm land is held by 1% of the farmers, while at the other extreme 89% of the farmers hold 24% of the land.

n.a. Not available.

least .70 (see Figures III.1 through III.3) the distribution of private landholdings is less unequal -- often considerably so -- because many of the large estates formerly in private lands, particularly in the Leewards, have been purchased or otherwise acquired by the governments of these countries. Unfortunately, complete data on landholdings by public and private ownership are not available. In Antigua, though, it is estimated that the government now owns 70% of the agricultural land. (Fiester et al. 1978:ANT-5). In St. Kitts-Nevis the figure is about 60% (Fiester et al. 1978: STK-4). In Barbados, on the other hand, data from the 1971 agricultural census show that the government owns only 5% of the land. And in St. Lucia the 1973/74 census (St. Lucia 1975: 49) indicates that government landholdings are negligible.

Another problem with the data in Tables III.1 and III.2 is that they provide no indication of land quality. It is widely believed that the best agricultural lands are on the large estates, while smallholders are concentrated on steep slopes or other lands where soils are at best mediocre. This may well be true, but this writer is not aware of any systematic study of the relationship between land quality and size of farm that would verify (or contradict) the conventional wisdom.

The ability of small farmers to increase their incomes seems to be severly restricted by limited access to land, except probably in Belize. Small farmers in the Eastern Caribbean reportedly find it difficult to purchase land, despite the decline of the private estate system and the exodus of farm operators from the countryside since 1960. Part of the problem is availability: though some private land continues to be subdivided and made available as small plots, much of the estate

Figure III.1

The Distribution of Agricultural Land in Barbados and Belize

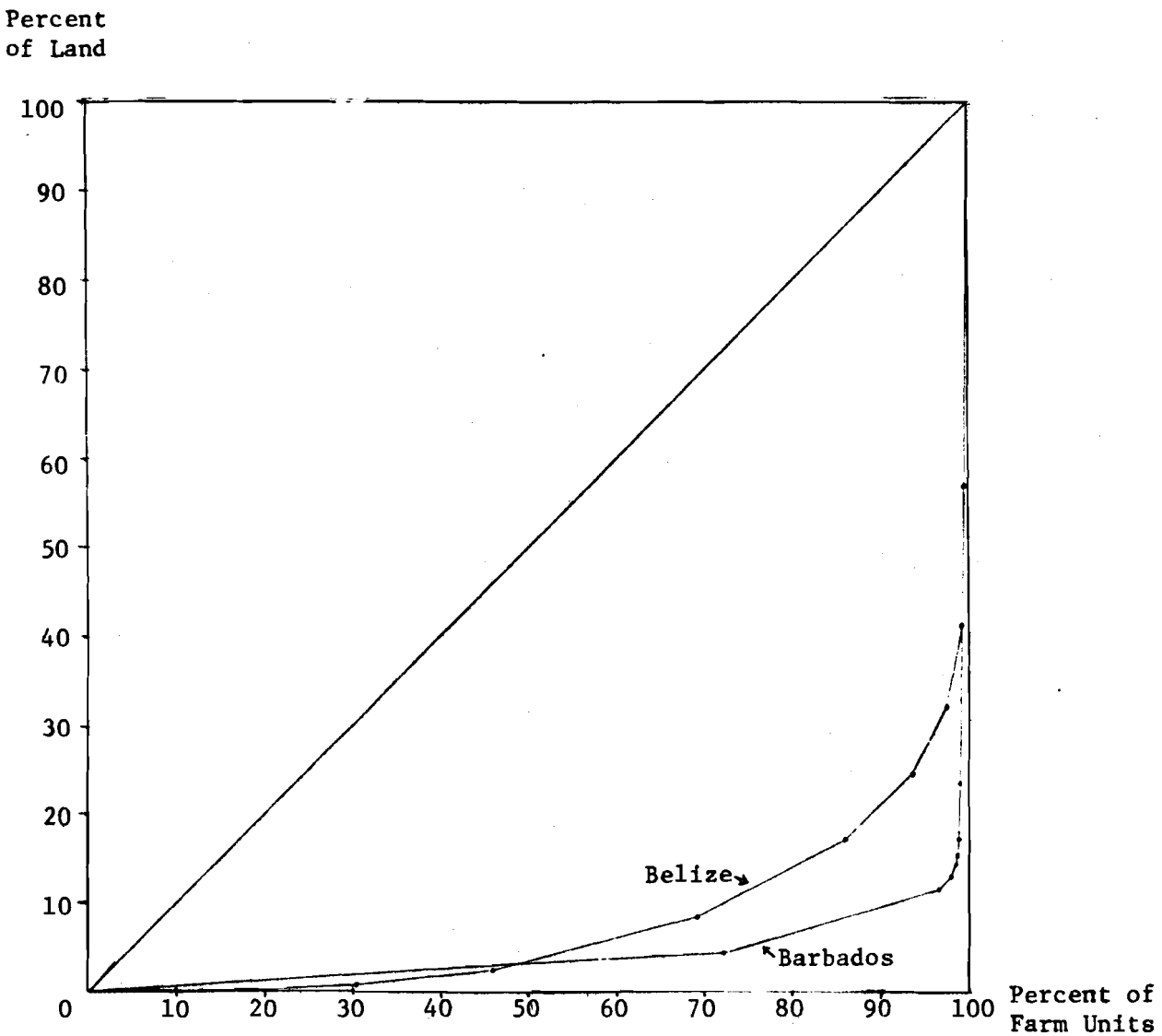


Figure III.2

The Distribution of Agricultural Land in the Windward Islands

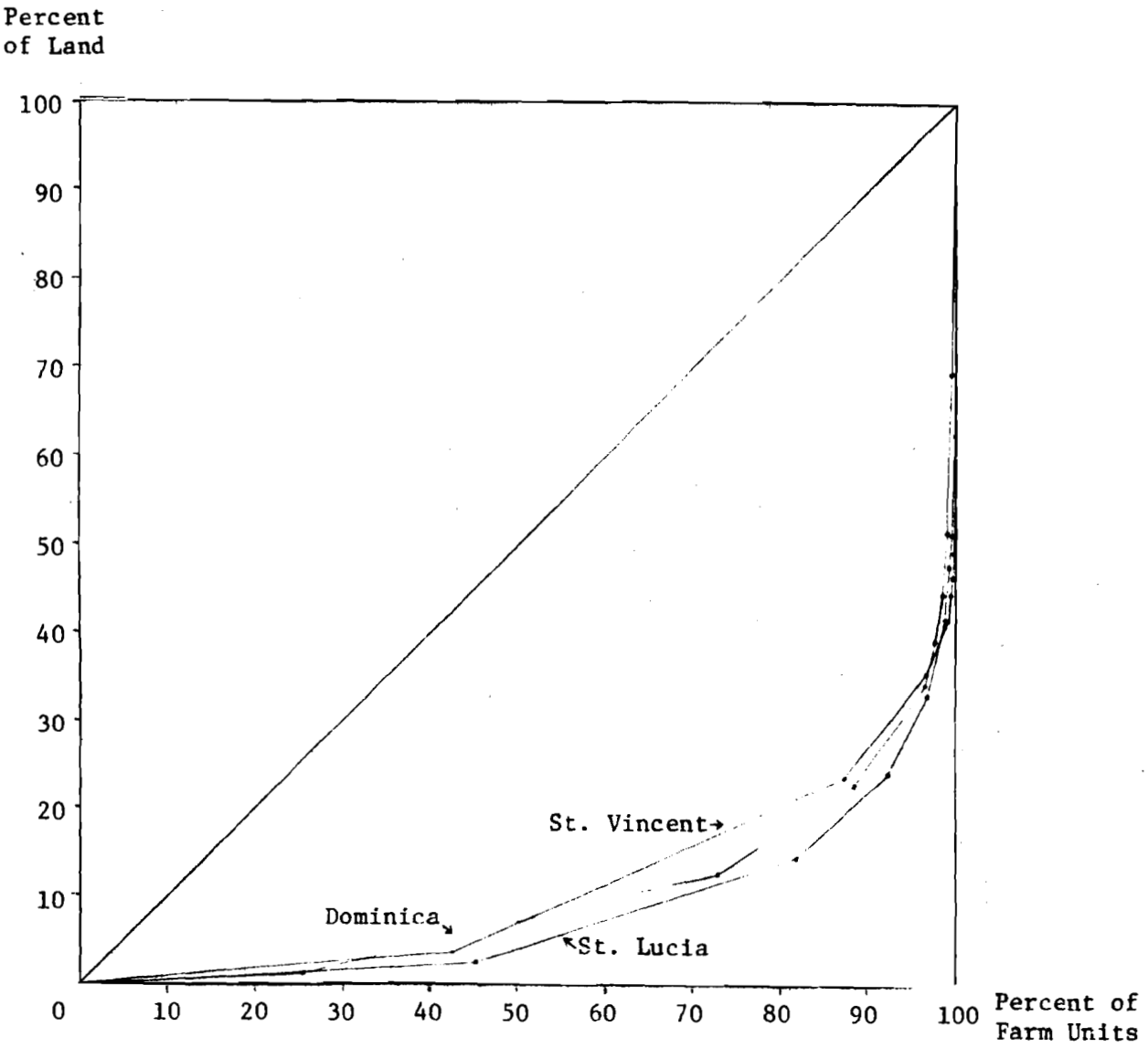
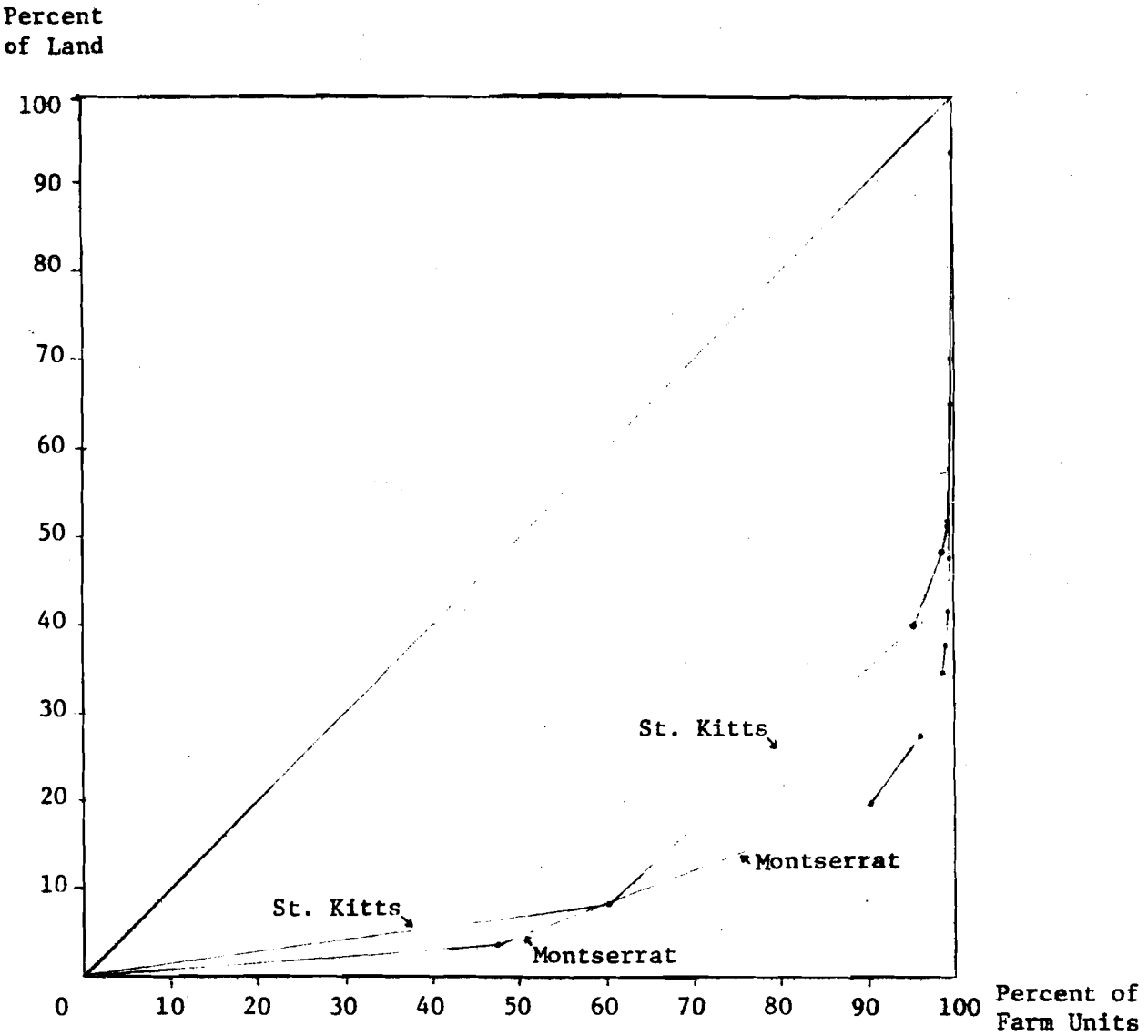


Figure III.3

The Distribution of Agricultural Land in the Leeward Islands



land has been passing into government hands and is not available for sale.[2/] Where land is available the cost is often high, particularly in areas where there is tourism potential. In Grenada, Brierley (1974:66-67) found that former estate workers and skilled laborers were usually at least 50 years old before they had money to buy enough land to become independent farmers. Even skilled workers did not save enough money until their late 30s or early 40s. The average age of the 292 farmers interviewed by Brierley was 54 years.

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2/ Government land tenure policies, which particularly in the Leewards favor rental arrangements, may be an obstacle to the growth of small farmer incomes (see Zuvekas 1978b: 59-62 and Part V below).

## IV. OTHER LEVEL OF LIVING INDICATORS

### 1. Unemployment and Underemployment

During the 1960s, rapid economic growth was accompanied by declining unemployment rates throughout the Caribbean Region. Unemployment rates for males, 10-12% for most countries in 1960, were less than 10% in all countries in 1970, and the regional average was 6.6%. For females, unemployment rates fell from 12-19% in most countries to an average of 10.4% for the region as a whole (see Table IV.1). Combined male-female unemployment rates in 1970 ranged from only 1.5% in the Cayman Islands to 12.5% in Antigua (Table IV.2).

Since 1970 unemployment rates appear to have risen in most, if not all countries. In Barbados, where quarterly employment surveys were begun in late 1975, the unemployment rate averaged 15.3% in the four surveys taken between December 1976 and September 1977. In Dominica, a survey of 670 households in 1976 found the unemployment rate to be 22.7%; an additional 11.9% were found to be underemployed (to an unspecified degree). A recent OAS survey of Grenada (OAS 1977) estimates the unemployment rate in that country to have been 15-20% during 1976.

Unemployment is very heavily concentrated among the younger age groups. Census data for 1970, for all countries in the Caribbean Region except Antigua, show that 67% of the unemployed men and 66% of the unemployed women were between the ages of 14 and 19. An additional 16% and 21%, respectively, were in the 20-24 age group.

Open unemployment rates in agriculture (see Zuvekas 1978b:Table II.4) were very low in 1970, averaging less than 1% of the agricultural labor

Table IV.1

Unemployment Rates, by Sex, 1960 and 1970
(percent)

A. Male Labor Force, 14+

| | 1960 | | | 1970 | | |
|---|---|---|---|---|---|---|
| | Seeking First Job | Other Unemployed | Total Unemployment | Seeking First Job | Other Unemployed | Total Unemployment |
| Barbados | 5.4 | 4.7 | 11.1 | 4.3 | 1.7 | 6.0 |
| Windward Islands | | | | | | |
| Dominica | 3.9 | 3.3 | 7.2 | 4.7 | 1.5 | 6.2 |
| Grenada | 4.1 | 8.5 | 12.6 | 5.5 | 1.8 | 7.3 |
| St. Lucia | 7.7 | 3.8 | 11.5 | 4.8 | 3.4 | 8.2 |
| St. Vincent | 5.9 | 5.8 | 11.7 | 7.0 | 2.6 | 9.6 |
| Leeward Islands | | | | | | |
| Antigua | n.a. | n.a. | n.a. | n.a. | n.a. | 9.9 |
| Montserrat | 7.7 | 4.2 | 11.9 | 1.7 | 1.5 | 3.2 |
| St. Kitts-Nevis | 3.8 | 8.0 | 11.8 | 2.9 | 1,3 | 4.2 |
| Belize | 4.5 | 5.3 | 9.8 | 3.3 | 1.6 | 4.9 |
| Other | | | | | | |
| British Virgin Is. | 3.6 | 3.6 | 7.2 | 2.0 | 0.7 | 2.7 |
| Cayman Islands | 3.9 | 4.6 | 8.5 | 1.0 | 0.6 | 1.6 |
| Turks & Caicos Is. | 3.9 | 1,4 | 5.3 | 2.9 | 5.5 | 8.4 |

Table IV.1
(continued)

B. Female Labor Force, 14+

| | 1960 | | | 1970 | | |
|---|---|---|---|---|---|---|
| | Seeking First Job | Other Unemployed | Total Unemployment | Seeking First Job | Other Unemployed | Total Unemployment |
| Barbados | 9.0 | 6.3 | 15.3 | 7.8 | 2.4 | 10.2 |
| Windward Islands | | | | | | |
| Dominica | 3.4 | 9.2 | 12.6 | 5.9 | 2.5 | 8.4 |
| Grenada | 7.5 | 11.1 | 18.6 | 9.7 | 2.7 | 12.4 |
| St. Lucia | 7.6 | 5.7 | 13.3 | 6.7 | 4.2 | 10.9 |
| St. Vincent | 6.2 | 10.2 | 16.4 | 10.0 | 2.9 | 12.9 |
| Leeward Islands | | | | | | |
| Antigua | n.a. | n.a. | n.a. | n.a. | n.a. | 16.7 |
| Montserrat | 8.5 | 4.0 | 12.5 | 4.6 | 2.7 | 7.3 |
| St. Kitts-Nevis | 6.0 | 5.5 | 11.5 | 4.9 | 1.8 | 6.7 |
| Belize | 5.5 | 2.4 | 7.9 | 3.1 | 0.8 | 3.9 |
| Other | | | | | | |
| British Virgin Is. | 9.5 | 5.1 | 14.6 | 4.4 | 0.7 | 5.1 |
| Cayman Islands | 4.0 | 3.5 | 7.5 | 1.1 | 0.2 | 1.3 |
| Turks & Caicos Is. | 5.3 | 2.6 | 7.9 | 3.3 | 1.6 | 4.8 |

Source: Abdulah (1977: 20-21), based on 1960 and 1970 census data, and Antigua (1976: 31).

Table IV.2

Combined Male-Female Unemployment Rates, 1970
(percent)

| | National Unemployment Rate |
|---|---|
| Barbados | 7.7 |
| Windward Islands | |
| Dominica | 7.0 |
| Grenada | 9.3 |
| St. Lucia | 9.1 |
| St. Vincent | 10.7 |
| Leeward Islands | |
| Antigua | 12.5 |
| Montserrat | 4.7 |
| St. Kitts-Nevis | 5.1 |
| Belize | 4.7 |
| Other | |
| British Virgin Is. | 3.4 |
| Cayman Islands | 1.5 |
| Turks & Caicos Is. | 7.3 |
| Total Caribbean Region | 7.9 |

Source: UWI/CRP (1976: Vol. 4, Part 16), and Antigua (1976:31).

force. Since most rural youth migrate from farms to urban areas, or seek employment overseas, these very low rates of open unemployment are not surprising.

There appear to be no good data on rural underemployment. One suspects that it may be relatively high in some countries, despite the widespread incidence of multiple jobholding.

Reasons for the significant increase in unemployment rates since 1970 include (1) a decline in economic activity (see Part II.1), (2) a rapid increase in the number of young people entering the labor-force age groups because of a moderately high natural rate of growth of the population, and (3) fewer opportunities for emigration because of tighter restrictions imposed by European and North American countries.

The effects of higher unemployment rates on individual and family welfare are difficult to judge. One informed source in Barbados has pointed out that the unemployment problem is less serious than it appears on the surface because a very high percentage of the unemployed are young people who continue to live at home and/or are financially supported by their families. Thus relatively few are destitute, though their lack of a job clearly tends to lower total household income. Still, unemployment rates are rising to levels that make many policy-makers fear the emergence of the kind of social unrest that has plagued Jamaica, a Caribbean nation where unemployment rates have been high for many years.

2. Education

Table IV.3 shows that rapid economic growth during the 1960s was accompanied by dramatic gains in educational attainment. In 1960 the proportion of the working population with at least 5 years of school exceeded 60% only in Barbados. In St. Lucia, where educational attainment was lowest, only 34% of the men and 43% of the women had reached this level.

Table IV.3

Level of Education of the Working Population 15 Years of Age and Older, by Sex, 1960 and 1970 (percentage in each category)

A.1. Male, 1960

| | Primary | | Secondary | | | |
|---|---|---|---|---|---|---|
| | Less than Standard 5 | Standards 5-7 | No School Certificate | School Certificate | University | Other |
| Barbados | 23.8 | 60.3 | 7.9 | 5.0 | 0.9 | 2.1 |
| Windward Islands | | | | | | |
| Dominica | 59.3 | 33.3 | 3.0 | 1.9 | 0.9 | 1.6 |
| Grenada | 42.3 | 48.1 | 3.7 | 3.2 | 1.0 | 1.7 |
| St. Lucia | 65.8 | 29.8 | 1.3 | 1.2 | 0.5 | 1.4 |
| St. Vincent | 57.6 | 34.8 | 3.5 | 2.3 | 0.7 | 1.1 |
| Leeward Islands | | | | | | |
| Antigua | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| Montserrat | 95.0 | | 5.0 | | | |
| St. Kitts-Nevis | 94.0 | | 6.0 | | | |
| Belize | 88.2 | | 11.8 | | | |
| Other | | | | | | |
| British Virgin Is. | 95.5 | | 4.5 | | | |
| Cayman Islands | 92.0 | | 8.0 | | | |
| Turks & Caicos Is. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |

A.2. Male, 1970

| | | | | | | |
|---|---|---|---|---|---|---|
| Barbados | 7.2 | 15.1 | 61.6 | 12.6 | 2.6 | 0.9 |
| Windward Islands | | | | | | |
| Dominica | 14.3 | 70.9 | 3.4 | 8.2 | 2.1 | 1.1 |
| Grenada | 8.8 | 79.3 | 2.9 | 6.1 | 1.8 | 1.1 |
| St. Lucia | 55.9 | 29.1 | 1.6 | 9.9 | 2.0 | 1.5 |
| St. Vincent | 14.2 | 72.1 | 3.3 | 7.7 | 2.0 | 0.7 |
| Leeward Islands | | | | | | |
| Antigua | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| Montserrat | 11.8 | 67.8 | 2.9 | 12.8 | 3.8 | 0.9 |
| St. Kitts-Nevis | 7.1 | 72.8 | 3.3 | 10.4 | 2.9 | 3.5 |
| Belize | 20.3 | 57.1 | 2.3 | 17.0 | 2.3 | 1.0 |
| Other | | | | | | |
| British Virgin Is. | 8.4 | 57.5 | 7.4 | 15.3 | 7.7 | 3.7 |
| Cayman Islands | 8.7 | 58.0 | 10.2 | 9.4 | 5.7 | 8.0 |
| Turks & Caicos Is. | 7.3 | 70.7 | 5.3 | 7.0 | 8.0 | 1.7 |

Table IV.3
(continued)

B.1. Female, 1960

| | Primary | | Secondary | | | |
|---|---|---|---|---|---|---|
| | Less than Standard 5 | Standards 5-7 | No School Certificate | School Certificate | University | Other |
| Barbados | 31.9 | 52.8 | 7.8 | 5.6 | 0.3 | 1.6 |
| Windward Islands | | | | | | |
| Dominica | 50.0 | 42.0 | 4.6 | 2.2 | 0.3 | 0.9 |
| Grenada | 44.0 | 46.2 | 5.1 | 3.2 | 0.3 | 1.2 |
| St. Lucia | 57.2 | 38.0 | 1.9 | 1.5 | 0.1 | 1.3 |
| St. Vincent | 57.9 | 35.3 | 3.8 | 2.2 | 0.2 | 0.6 |
| Leeward Islands | | | | | | |
| Antigua | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| Montserrat | 94.1 | | 5.9 | | | |
| St. Kitts-Nevis | 93.1 | | 6.9 | | | |
| Belize | 77.5 | | 22.5 | | | |
| Other | | | | | | |
| British Virgin Is. | 79.4 | | 20.6 | | | |
| Cayman Islands | 85.8 | | 14.2 | | | |
| Turks & Caicos Is. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |

B.2. Female, 1970

| | | | | | | |
|---|---|---|---|---|---|---|
| Barbados | 8.6 | 16.5 | 55.8 | 15.6 | 1.7 | 1.8 |
| Windward Islands | | | | | | |
| Dominica | 10.6 | 66.3 | 4.7 | 14.4 | 1.6 | 2.4 |
| Grenada | 9.4 | 74.4 | 3.9 | 9.8 | 0.8 | 1.7 |
| St. Lucia | 42.4 | 31.9 | 3.0 | 18.7 | 1.3 | 2.7 |
| St. Vincent | 14.0 | 67.1 | 4.0 | 12.5 | 1.4 | 1.0 |
| Leeward Islands | | | | | | |
| Antigua | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| Montserrat | 8.4 | 60.9 | 4.6 | 19.7 | 4.9 | 1.5 |
| St. Kitts-Nevis | 5.2 | 68.1 | 4.2 | 15.8 | 2.3 | 4.4 |
| Belize | 8.2 | 46.5 | 4.8 | 33.0 | 4.2 | 3.3 |
| Other | | | | | | |
| British Virgin Is. | 3.3 | 45.0 | 8.9 | 29.3 | 8.1 | 5.4 |
| Cayman Islands | 6.7 | 53.4 | 7.4 | 13.8 | 4.9 | 13.8 |
| Turks & Caicos Is. | 5.9 | 60.8 | 9.7 | 15.1 | 5.3 | 3.2 |

Source: Abdulah (1977: 106-109).

By 1970 the figures had reached 85% or more in all countries except for men in Belize (80%) and both men and women in St. Lucia (44% and 58%).

The proportion of the working population in 1970 with a secondary or university certificate was at least 10% in all cases but one (men in Grenada). The highest figure was 37%, for women in Belize and the British Virgin Islands. In all countries a higher percentage of women than men had attained at least a secondary certificate, though at the university level the figure was usually higher for men than for women.

Table IV.4 presents combined male-female educational attainment data for 1970, this time for heads of household rather than all members of the working population. These data show that 75-90% of the heads of household had completed at least 5 years of school in all countries except St. Lucia, where the figure was only 37%. These figures are high in comparison with those in other developing countries. Disaggregation of the data in Table IV.4 by parish or other subdivision (see Zuvekas 1978b: Table II.5) shows that functional literacy is not just an urban phenomenon. While educational levels are higher in urban areas than in predominantly rural subdivisions, the differences are not great: with the exception again of St. Lucia, at least 70% of the heads of households in all but a few rural subdivisions had completed 5 years of school or more. In St. Lucia, the exceptional case, only 21-36% the heads of households in rural parishes had attained this level of education.

Farm-level surveys also show a relatively high degree of functional literacy, though it appears that small farmers sometimes have less education than rural residents generally:

-Brierley (1974: 61-63 and passim) found a mean of 4.3 years of educational attainment among small farmers in Grenada, with the parish

Table IV.4

Level of Education Attained by Head of Household, 1970
(percent in each category)

| | Less than 5 Years | 5 Years or More | Not Stated |
|---|---|---|---|
| Barbados | 13.2 | 85.3 | 1.5 |
| Windward Islands | | | |
| Dominica | 19.1 | 80.7 | 0.2 |
| Grenada | 12.2 | 84.5 | 3.3 |
| St. Lucia | 62.2 | 37.4 | 0.4 |
| St. Vincent | 18.2 | 79.5 | 2.3 |
| Leeward Islands | | | |
| Antigua | n.a. | n.a. | n.a. |
| Montserrat | 15.8 | 81.6 | 2.6 |
| St. Kitts-Nevis | 9.3 | 89.0 | 1.7 |
| Belize | 22.4 | 77.0 | 0.6 |
| Other | | | |
| British Virgin Is. | 13.2 | 84.9 | 1.9 |
| Cayman Islands | 11.2 | 86.8 | 2.0 |
| Turks & Caicos Is. | 9.7 | 88.6 | 1.7 |

Source: UWI/CRP (1976: Vol. 9, Parts 2-4).

figures ranging from 3.3 in St. John's to 5.4 in St. David's. Educational attainment was lowest among what Brierley calls "commercial" farmers (those deriving more than half their income from farming), and highest among the operators of "miniature estates" (7-15 acres).

-Momsen (1970:81-82) reports that all of the 200 or so small farmers she interviewed in Barbados were literate, while in St. Lucia 37% could neither read nor write. Momsen's analysis found literacy to be "the single most important element in determining the efficiency of small farming."

-Yankey (1969:235), who surveyed 96 small farmers in 1966, reports the following distribution of educational attainment in Dominica:

| | N | % |
|---|---|---|
| No schooling | 12 | 12.5 |
| Less than 3 years | 27 | 28.1 |
| 3-5 years | 33 | 34.4 |
| More than 5 years | 22 | 22.9 |
| High School | 2 | 2.1 |
| Total | 100 | 100.0 |

Expenditures on education, while providing "consumption" benefits that have constituted important improvements in welfare, may not have had high benefits of an "investment" nature. Although unemployment among youth may be concentrated in the less-well-educated groups, there is probably considerable underutilization of secondary-level and post-secondary skills. In addition, emigration (which tends to be selective of the more highly educated groups) transfers the benefits of education to the countries of destination, except to the extent that these benefits are sent home in the form of remittances or pension payments to returned emigrants.

3. Housing

The quantity and quality of housing is an important component of

welfare. In this section we examine two measures of the quantity dimension, the number of rooms per household and the average number of persons per room. These data, which are available only at the national level, are presented in Table IV.5. For the region as a whole the average number of rooms per dwelling unit in 1970 was 3.2. For the individual countries, the range is from 2.7 in St. Lucia and Belize to 4.1 in the Turks and Caicos Islands. These figures may be compared with an average of 2.1 rooms per dwelling unit in Haiti, the poorest country in the Western Hemisphere.[1/] The average number of persons per room for the region as a whole is 1.4, compared with 2.3 in Haiti.

The limitations of these indicators should be kept in mind: they tell us nothing about the quality of construction or the size of rooms. In addition, the census data do not indicate how the housing of small farmers or low-income urban residents differs from the national average. Other evidence, though, suggests that the "typical" small farmer's dwelling unit does not differ much in size from the national average. Moreover, it appears to be larger than those of small farmers in most of Central and South America.

The Weir Survey (1976:I(b), 12, 59, 108) reports the following data on number of bedrooms per dwelling unit on small farms in Dominica, Montserrat, and St. Vincent:

| Number of Bedrooms | Dominica | Montserrat | St. Vincent |
|---|---|---|---|
| 1 | 19 | 9 | 20 |
| 2 | 41 | 40 | 48 |
| 3 | 23 | 40 | 27 |
| 4+ | 18 | 9 | 7 |
| Total* | 100 | 100 | 100 |

*Columns do not add to 100 because of rounding.

[1/] Average household size in Haiti is 4.5, about the same as the 4.4 figure for the Caribbean Region (see Zuvekas 1978b: Table I.4).

Table IV.5

Distribution of Dwelling Units by Number of Rooms, 1970
(number of dwelling units in each category)

| | Number of Rooms | | | | | | | | Total Number of Dwelling Places | Estimated Average Number of Rooms[a] | Average Number of Persons per Room |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7+ | Not Stated | | | |
| Barbados | 1,433 | 8,678 | 11,144 | 22,068 | 9,242 | 2,551 | 1,292 | 2,190 | 58,596 | 3.8 | 1.1 |
| Windward Islands | | | | | | | | | | | |
| Dominica | 2,337 | 6,423 | 1,577 | 3,120 | 749 | 433 | 293 | 217 | 15,149 | 2.8 | 1.6 |
| Grenada | 1,275 | 7,078 | 3,850 | 3,719 | 1,049 | 499 | 411 | 1,763 | 19,644 | 3.0 | 1.6 |
| St. Lucia | 2,989 | 8,904 | 2,991 | 4,242 | 1,070 | 514 | 301 | 742 | 21,753 | 2.7 | 1.7 |
| St. Vincent | 1,421 | 6,857 | 4,086 | 2,365 | 912 | 374 | 334 | 591 | 16,940 | 2.8 | 1.8 |
| Leeward Islands | | | | | | | | | | | |
| Antigua | 1,735 | 4,066 | 1,760 | 3,144 | 2,259 | 1,505 | 936 | - | 15,405 | 3.6 | 1.2 |
| Montserrat | 246 | 1,062 | 444 | 824 | 295 | 161 | 84 | 175 | 3,291 | 3.2 | 1.1 |
| St. Kitts-Nevis | 1,928 | 3,295 | 1,576 | 1,834 | 1,001 | 578 | 626 | 398 | 11,236 | 3.1 | 1.3 |
| Belize | 3,032 | 9,286 | 5,813 | 2,722 | 1,052 | 398 | 339 | 423 | 23,065 | 2.7 | 1.9 |
| Other | | | | | | | | | | | |
| British Virgin Is. | 389 | 503 | 330 | 433 | 328 | 192 | 160 | 112 | 2,447 | 3.5 | 1.1 |
| Cayman Is. | 156 | 254 | 518 | 721 | 440 | 189 | 81 | 110 | 2,469 | 3.9 | 1.1 |
| Turks & Caicos Is. | 47 | 189 | 228 | 340 | 197 | 120 | 116 | 45 | 1,282 | 4.1 | 1.0 |

Sources: UWI/CRP (1976: Vol. 9, Parts 2-4), and the separate population census conducted by the Government of Antigua.

[a]Assumes that the mean in the 7+ category is 8 rooms. The calculations exclude dwelling units for which the number of rooms is not stated.

These data show that at least 80% of the farm households in the survey had at least two bedrooms. No information is provided on other rooms.

4. Water Supply

Table II.6 provides data on household water supply systems at the national level. In Barbados more than 55% of all households had public water supplies piped into their dwellings or yards. Elsewhere the figures ranged from virtually zero in the Turks and Caicos Islands to 48% in Montserrat. If private piped and catchment systems are added to these figures the percentage of households having their own water supply rises to 82-83% in the British Virgin Islands and Cayman Islands; jumps from 14% to 38% in Belize and from zero to 37% in the Turks and Caicos Islands; and increases by 3-10 percentage points in the other countries. In addition, a substantial number of households obtain water from public standpipes: at least 74% of all households in 1970 had access at least to this type of water supply except in St. Lucia (66%), Belize (64%), and the Turks and Caicos Islands (56%).

Disaggregated data in Table II.6 show that households in rural parishes are less well served with water supply systems than those in urban parishes. Still, of the 105 parishes or other subdivisions in the 12 countries surveyed, only in 13 does the percentage of households not served at least by a public standpipe exceed 50%. Of these, 4 are sparsely populated islands in the Turks and Caicos; another 4 are in Belize and 3 are in St. Lucia, the two countries where small farm households have the poorest access to water supply systems. Also poorly served are Nevis and some parts of rural Dominica.

Several small farmer surveys also provide data on household water supplies. In Grenada, Brierley (1974:79) found that 44% of the farmers he surveyed had piped-in water. The figures by parish were as follows:

Table IV.6

Type of Household Water Supply, 1970
(percent in each category)

| | Public Piped[a] | Private Piped or Catchment[b] | Public Stand-pipe | Other[c] |
|---|---|---|---|---|
| Barbados | 55.6 | 5.3 | 36.6 | 2.5 |
| Windward Islands | | | | |
| Dominica | 15.7 | 7.3 | 51.1 | 25.9 |
| Grenada | 32.2 | 10.0 | 49.7 | 8.1 |
| St. Lucia | 17.6 | 7.8 | 40.6 | 34.0 |
| St. Vincent | 22.1 | 8.0 | 62.0 | 7.9 |
| Leeward Islands | | | | |
| Antigua | 21.0 | 5.1 | 64.4 | 9.5 |
| Montserrat | 48.2 | 3.3 | 36.5 | 12.0 |
| St. Kitts-Nevis | 29.3 | 5.7 | 53.3 | 11.7 |
| Belize | 13.5 | 24.3 | 25.7 | 36.5 |
| Other | | | | |
| British Virgin Is. | 4.3 | 74.9 | 3.1 | 17.7 |
| Cayman Islands | 0.6 | 81.0 | 0.0 | 18.4 |
| Turks & Caicos Is. | 0.1 | 36.6 | 19.0 | 44.3 |

Source UWI/CRP (1976: Vol. 9, Parts 2-4), and Antigua (1976: 15).

[a]Piped into dwelling or yard. For Antigua the figures include private piped systems.

[b]Private system piped into dwelling or private catchment system, unpiped (public catchment in Antigua).

[c]Public tank, other, or not stated.

| | Sample Size | Percentage of Houses with Piped-in Water |
|---|---|---|
| St. George's | 52 | 54 |
| St. John's | 38 | 32 |
| St. Mark's | 21 | 57 |
| St. Patrick's | 46 | 35 |
| St. Andrew's | 86 | 44 |
| St. David's | 49 | 47 |
| Total | 292 | 44 |

More recent data for Grenada were obtained in that country's agricultural census of 1974/75. These data show that 68% of all farm households had water either on their farms or no more than a half-mile away. Seventeen percent had piped-in water and an additional 9% obtained water from catchments, wells, or springs on their farms. Another 30% had access to piped water within a half mile of their farms.

The Weir survey (1976:1(b), 13, 61, 108) in Dominica, Montserrat, and St. Vincent reported the following data:

| | Percent of Households Surveyed | |
|---|---|---|
| | Piped-in Water | Public Standpipe |
| Dominica | 44 | 19 |
| Montserrat | 77 | 15 |
| St. Vincent | 49 | 39 |

More recent data for Dominica are provided in that country's new agricultural sector plan (1977:4), which reports that water is supplied to approximately 83% of the population through 36 separate water supply systems. Of the amount of water supplied, 84% is chlorinated.

5. Toilet Facilities

Table IV.7 provides data from the 1970 census on household toilet facilities. At least 75% of the households in all countries had some type of toilet facility (usually a pit latrine) except in Dominica, where 51% were reported to have none. Paradoxically, Dominica also had the highest percentage of households with a W.C. attached to a sewer, though

Table IV.7

Type of Household Toilet Facilities, 1970
(percent in each category)

| | Pit Latrine | W.C. with Sewer | W.C. No Sewer | Other/ Not Stated | None |
|---|---|---|---|---|---|
| Barbados | 70.5 | 1.5 | 25.0 | 2.3 | 0.7 |
| Windward Islands | | | | | |
| Dominica | 33.5 | 8.8 | 3.5 | 3.1 | 51.1 |
| Grenada | 66.5 | 8.0 | 15.0 | 1.5 | 9.0 |
| St. Lucia | 54.4 | 5.1 | 5.9 | 10.2 | 24.4 |
| St. Vincent | 77.5 | 1.4 | 12.4 | 2.1 | 6.6 |
| Leeward Islands | | | | | |
| Antigua | n.a. | ——17.0—— | | n.a. | 16.1 |
| Montserrat | 48.7 | 0.7 | 24.7 | 2.8 | 23.1 |
| St. Kitts-Nevis | 52.8 | 2.2 | 29.6 | 6.6 | 8.8 |
| Belize | 47.1 | 1.2 | 12.9 | 23.2 | 15.6 |
| Other | | | | | |
| British Virgin Is. | 29.3 | 1.2 | 48.9 | 4.0 | 16.6 |
| Cayman Is. | 39.1 | 0.9 | 46.3 | 5.5 | 8.2 |
| Turks & Caicos Is. | 68.6 | 1.6 | 11.0 | 2.3 | 16.5 |

Source: UWI/CRP(1976: Vol. 9, Parts 2-4), and Antigua (1976: 15).

this figure (9%) is still relatively low.

If the national figures are disaggregated (see Zuvekas 1978b: Table II.8) we find that in some parts of rural Dominica 70-90% of the households have no toilet facilities. The figures are also relatively high in rural St. Lucia and in scattered parts of other countries.

The only other data found on toilet facilities are from Brierley's (1974:79) study in Grenada. Of the 292 small farmers interviewed in 1969, 19% were found to have sewerage connections. Some of the remaining 81% presumably used pit latrines. The data by parish are as follows:

| | Sample Size | Percentage of Houses with Sewerage Facilities |
|---|---|---|
| St. George's | 52 | 25 |
| St. John's | 38 | 16 |
| St. Mark's | 21 | 29 |
| St. Patrick's | 46 | 9 |
| St. Andrew's | 86 | 21 |
| St. David's | 49 | 16 |
| Total | 292 | 19 |

6. Electricity

Urban areas in the Caribbean Region seem to be well-served by electricity. In rural areas, though, there is considerable variation from country to country. In Grenada, Brierley (1974:79), whose field work was conducted in 1969, found that only 22% of the 292 small farmers he interviewed had household electricity. The distribution by parish was as follows:

| | Sample Size | Percentage of Houses with Electricity |
|---|---|---|
| St. George's | 52 | 37 |
| St. John's | 38 | 26 |
| St. Mark's | 21 | 29 |
| St. Patrick's | 46 | 11 |
| St. Andrew's | 86 | 12 |
| St. David's | 49 | 33 |
| Total | 292 | 22 |

More recent data for Grenada suggest that there has been little change since 1969. In 1976 only 35% of all households were served by electricity, and the percentage was lower in rural areas than in urban areas (Grenada UNPPU, 1977:52).

Surveys conducted by the Weir group in Dominica, Montserrat and St. Vincent found that the percentages of small farm households having electricity were much higher than in Grenada (1976:1(b), 13, 61, 108):

| | |
|---|---|
| Dominica | 47% |
| Montserrat | 69% |
| St. Vincent | 52% |

7. Infant Mortality

Infant mortality rates in the Caribbean are relatively low in comparison with those in other regions in the developing world. Data are available from several sources, and unfortunately the figure for a given country may vary considerably according to the source and the year. This suggests either that the data are poor or that they are subject to significant annual fluctuations because of a relatively small number of observations.[2/] Table IV.8 presents data collected by the Pan American Health Organization. These show that infant mortality rates in 1972 were generally less than 50 per 1,000 and in three cases less than 20 per 1,000. In St. Kitts-Nevis and St. Vincent, however, the figures were nearly 70 per 1,000.

Among small farmers and low-income urban dwellers, infant mortality rates are most likely higher than the national averages. But there is no clear indication of how much higher they might be.

8. Life Expectancy

Data on life expectancy from the latest (1976) United Nations Demographic Yearbook are presented in Table IV.9. Even though these

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[2/] For a discussion of problems in measuring infant mortality on an annual basis, see Heligman, Finch, and Kramer (1978).

Table IV.8

Infant Mortality Rates, 1972
(deaths per 1,000 live births)

| | Infant Mortality Rate |
|---|---|
| Barbados | 33.9 |
| Windward Islands | |
| Dominica | 32.0[c] |
| Grenada | 16.0 |
| St. Lucia | 52.3 |
| St. Vincent | 69.6 |
| Leeward Islands | |
| Antigua | 19.1 |
| Montserrat | 31.4 |
| St. Kitts | 69.6 |
| Belize | 38.5[c] |
| Other | |
| British Virgin Is. | 44.9[c] |
| Cayman Is. | 11.0[a] |
| Turks and Caicos Is. | 47.4[b] |

Source: PAHO (1976: 505).

[a]1970.

[b]1971.

[c]1973.

Table IV.9

Life Expectancy at Birth

| Country | Year(s) | Male | Female |
|---|---|---|---|
| Barbados | 1959-61 | 62.7 | 67.4 |
| Windward Islands | | | |
| Dominica | 1958-62 | 57.0 | 59.2 |
| Grenada | 1959-61 | 60.1 | 65.6 |
| St. Lucia | 1959-61 | 55.1 | 58.5 |
| St. Vincent | 1959-61 | 58.5 | 59.7 |
| Leeward Islands | | | |
| Antigua | 1959-61 | 60.5 | 64.3 |
| Montserrat | 1946 | 49.5 | 54.8 |
| St. Kitts-Nevis-(Anguilla) | 1959-61 | 58.0 | 61.9 |
| Belize | 1944-48 | 45.0 | 49.0 |
| Other | | | |
| British Virgin Is. | 1946 | 49.5 | 54.8 |
| Cayman Islands | n.a. | n.a. | n.a. |
| Turks & Caicos Is. | n.a. | n.a. | n.a. |

Source: United Nations, Demographic Yearbook 1976 (New York, 1977), pp. 131-132.

Table IV.10

Nutritional Status of Children Less than 5 Years Old
(percent in various Gomez-scale categories)

| | Date | Number of Observations | Nutritional Status | | | | |
|---|---|---|---|---|---|---|---|
| | | | Normal | Malnourished[a] I | II | III | Total |
| Barbados | 1969 | 248 | 48.8 | 39.0 | 11.0 | 1.2 | 100.0 |
| Windward Islands | | | | | | | |
| Dominica | 1970 | 117 | 71.8 | 19.7 | 5.1 | 3.4 | 100.0 |
| Grenada | - | - | ——— | ——— | n.a. | ——— | ——— |
| St. Lucia | 1974 | 363 | 56.1 | 33.0 | 9.0 | 1.9 | 100.0 |
| St. Vincent | 1967 | 2,490 | 37.5 | 47.0 | 14.0 | 1.5 | 100.0 |
| Leeward Islands | | | | | | | |
| Antigua | 1975 | 535 | 56.9 | 35.5 | 6.8 | 0.8 | 100.0 |
| Montserrat | 1971 | 372 | 63.1 | 28.0 | 3.5 | 0.0 | 100.0[b] |
| St. Kitts-Nevis-(Anguilla) | 1974 | 1,209 | 61.2 | 33.3 | 5.4 | 0.1 | 100.0 |
| Belize | 1973 | 3,546[c] | 40.8 | 40.0 | 18.0 | 1.2 | 100.0 |
| Other | | | | | | | |
| British Virgin Is. | - | - | n.a. | n.a. | —5.0[d]— | | 100.0 |
| Cayman Is. | - | - | ——— | ——— | n.a. | ——— | ——— |
| Turks and Caicos Is. | - | - | ——— | ——— | n.a. | ——— | ——— |

Source: Various studies, as reported in PAHO (1976: 503).

[a]Degree I (mild) malnutrition is characterized by body weights that are 75-90% of standard weights by age; Degree II malnutrition occurs when body weights are 60-75% of the standard; and Degree III malnutrition is characterized by body weights less than 60% of the standard.

[b]Includes 5.4% who were overweight by 10% or more.

[c]5½-year-olds only.

[d]Estimate.

data are at least 15 years old (and more than 30 years old in a few cases), they show that life expectancy in the region is relatively high. In countries for which the data are for the late 1950s and early 1960s (Barbados, the Windwards, and the Leewards except for Montserrat), life expectancy is reported to be from 57 to 65 years. In Montserrat, the Cayman Islands, and Belize, where the data are for the mid-1940s, the figures range from 47 to 52 years.

It is believed that life expectancy in the Caribbean Region now exceeds 60 in all countries, except perhaps Belize. No estimates are available for political subdivisions below the national level. One would expect life expectancy for small farmers and low-income urban dwellers to be below the national figures, but the high average age of the small-farmer population (see Zuvekas 1978b: 6-8) suggests that the differences probably are not great.

9. Nutrition

The results of various nutrition surveys are summarized in Table IV.10. These show that for children under 5, the incidence of severe (third-degree) malnutrition is less than 2% in all countries except Dominica, where it was 3.4% in 1970. The percentage of young children with second-degree malnutrition ranges from 3.5% in Montserrat to 18% in Belize.

The incidence of malnutrition is likely to be greater among small-farm families and low-income urban families than in the population generally, but data to test this hypothesis do not seem to be readily available.

## V. INCOME DISTRIBUTION POLICY

Governments in the Caribbean Region appear to be more concerned with income distribution than those in most of the Central and South American countries. A number of programs for redistributing income or wealth, or providing widespread access to basic goods and services, have been adopted. Some of these seem clearly to have promoted greater equality. But the effects of other programs have been unclear, and there is reason to believe that in some cases programs designed to reduce inequalities have had the opposite effect. Because of time limitations, it has not been possible to undertake a detailed analysis of the effectiveness of all major policies that have affected income distribution. The discussion below is thus sometimes general, but it does serve to identify issues with which policy-makers should be concerned.

Policies which affect income distribution in the Caribbean Region include those related to the following issues or activities:

1. Land Ownership. Wealth is a major determinant of current income, and in the Eastern Caribbean the principal form of wealth historically has been agricultural land. In most countries in the region, the distribution of private agricultural land appears to have been becoming more equal for several decades, as many estate owners have found sugar and cotton production no longer profitable and have sold their lands to the government. On balance, the decline of the private estate system has probably made income distribution more equal, other things equal. However, there are good reasons to be concerned about the effects of government land policies on small farmers' abilities to increase their incomes over time. We noted earlier that a predilection toward land rental arrangements does not appear to have provided sufficient incentives for small farmers to make investments in more productive technologies, even though the rents charged by the govern-

ment are usually low and in some cases zero. Where land sales have been made, the parcels have sometimes been too small to permit buyers to engage in farming on a full-time basis. In addition, small farmers--renters as well as buyers--have not always been given access to good quality land.[1/]

2. Education and Health. Governments in the Caribbean Region have had a strong commitment to education. As we saw in Part IV.2, a relatively high percentage of the adult population, except in St. Lucia, is functionally literate. Almost all the primary school-age population now appears to be in school. Although it should not be assumed that the provision of widespread educational opportunities automatically helps to narrow income inequalities, this very likely has occurred in the Caribbean Region. An important, though probably unintended effect of widespread education has been to give large numbers of people the skills needed to obtain reasonably well-paying jobs overseas. If the remittances sent home by these emigrants are distributed in such a way as to narrow income inequalities, as is suspected, then education can be said to have contributed indirectly to a more equal income distribution. (Not all emigration, of course, can be explained by educational opportunities in the home country.)

Whatever the net direct and indirect effects of education on income distribution, and whatever the (net) rate of return to investment in education, there clearly has been a widespread distribution of the consumption benefits of education. Thus government spending on education has made an important contribution to economic development in that this basic need has been satisfied for a relatively high percentage of the population.

Budgetary expenditures on health have not been examined. However,

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[1/] For a more detailed discussion of these issues, see Zuvekas (1978a: 13-17).

data on access to piped water and waste disposal systems, and on life expectancy and infant mortality, suggest that a relatively large proportion of the population has benefited from public health facilities and health services. Better health does not always mean higher money income; but if we focus again on the distribution of services and the satisfaction of basic needs, instead of the distribution of income, it appears that the degree of equality is relatively high.

3. Tax Policy. There appears to have been little research on the effect of tax policy on income distribution. In the mid-1960s, (O'Loughlin (1968:175-183) noted that customs duties, the principal source of tax revenues in the Windward and Leeward Islands, fell heavily on basic foods (e.g. flour, rice, and salt fish) and other necessities, though tax rates were higher on luxuries and semiluxuries. But income taxes, the second most important source of revenue, were more progressive than in the U.K., though evasion was said to be common. Since no more than 8% of the population (and for most countries about 4%) was said to pay income taxes, this tax may indeed have been effectively progressive, at least in the sense that most low-income households paid none at all. The structure of taxation in the early 1970s seemed to be fundamentally the same (Jetha and Peera 1977).

Recently, personal income taxes were abolished in Antigua. This "populist" policy decision may have benefited primarily the upper- and middle-income groups, since few lower-income households had been paying income taxes.

A recent survey of tax policy and administration in the Less Developed Countries of the Caribbean Community concluded that the effect of administrative deficiencies "was to increase significantly the relative burden on the lower income groups and reduce that on the higher incomes even where government was sufficiently cognisant of these deficiencies to take steps to introduce new tax measures to compensate" (Francis and Supersad 1977: xiii).

In summary, it is not clear that tax policies, whatever their intentions, have had the effect of narrowing income inequalities. More research is needed on this important topic.

4. Credit. Low-income farmers and other business operators have been able to obtain some credit from public development finance corporations (DFCs). In the Windwards and Leewards, the DFCs were established only recently, between 1965 and 1973. In Barbados, the three DFCs have a longer history. In Belize, an existing institution was reorganized in the early 1970s.

The public credit institutions in the Caribbean Region have followed low-interest rate policies which on the surface appear to be especially beneficial to low-income groups. However, there is little information on the distribution of credit according to the income level of the borrowers. It is known, though, that in some countries the amount lent to most small farmers is so little that it does not permit them significantly to improve production technology. Interest rates generally are too low to ensure financial viability, making the DFCs dependent on annual subventions from governments whose fiscal positions have generally deteriorated during the 1970s. This limits the ability of the DFCs to grow over time and serve greater numbers of low-income households. 2/

5. Wage Policy. Labor unions are strong in the Caribbean Region. They have often been a major pillar of support for national governments, and they have lobbied successfully for favorable wage policies. Sugar workers in Barbados and St. Kitts, and perhaps elsewhere, have been given a guaranteed annual income. It St. Kitts, according to O'Loughlin (1968:20), "due to the efforts of well-organized trade unions, the workers have secured

2/ For a brief evaluation of the individual DFCs, see the country chapters in Fiester et al. (1978).

a better share of the sugar income and therefore income from the sugar crop percolates to all sectors of the community." However, wage policies have contributed to the increased costs of sugar production, helping to make Caribbean sugar increasingly uncompetitive and forcing its abandonment or near-abandonment in a number of islands. Policies which reduce income inequalities in the short run can thus have adverse effects on the growth of income over the long run. They can also have negative effects on total employment by stimulating the substitution of capital for labor.

6. Marketing. Government agricultural marketing boards presumably seek to raise small farmers' incomes by providing an assured market and dampening price fluctuations. But marketing policies as a whole have often had an adverse effect on small farmers' incomes. It is not clear, though, how marketing policies have affected overall income distribution, since policies which discourage local production (e.g. ceilings on farm-gate or consumer prices and import policies that depress local prices) benefit primarily low-income consumers, who spend a greater share of their income on food than upper-income consumers.

Marketing boards throughout the region are financially and administratively weak. In the Eastern Caribbean, only the St. Vincent Marketing Board operates at a profit. Certain policies which seem to narrow income inequalities in the short run may have precisely the opposite effect in the long run. An extreme case is that of Antigua's Central Marketing Corporation (CMC), which buys all produce that farmers have to offer. In one recent 10-month period, the CMC discarded more produce than it could sell, partly because it has been reluctant to use its powers to set quality standards and thus

buys produce that is unmarketable.[3/] Instead of stimulating foreign exchange earnings or helping to reduce food imports, the CMC in effect operates as a welfare agency, redistributing existing income in favor of small farmers. However, it does little to add to real wealth or to increase future incomes. And if the CMC's financial losses force it to cease or severely curtail its operations, as may well happen, farmers' incomes will suffer unless alternative buyers can be found--which is unlikely without quality improvements.[4/]

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[3/] If a marketing board will purchase all produce offered, it is rationa[illegible] farmers to concentrate on low-quality produce that can be grown at lowe[illegible] than high-quality produce.

[4/] For a more detailed discussion of marketing problems from which the above comments are drawn, see Zuvekas (1978a:24-27).

## VI. DIRECTIONS FOR FUTURE RESEARCH

Per capita income leaves much to be desired as a measure of well-being, particularly in developing countries where many goods and services are not provided through the marketplace. In the Caribbean Region, farm-level surveys have not even estimated the value of food produced and consumed on the farm. In addition, these surveys have incompletely accounted for off-farm income, both from employment and from other sources. The resulting downward biases in estimated income more than offset the upward biases resulting from the reporting of earned income on a gross basis. Total (cash plus imputed) income in rural areas not only is underestimated but also is higher relative to urban income than the data suggest. Income distribution data (size distributions, rural-urban differences, etc.) can thus be very misleading.

National accounts data provide some indication of trends in aggregate income, but little is known about trends in the real income of low-income groups in either rural and urban areas. Discerning these trends is especially difficult in the Caribbean Region because of (1) the widespread incidence of multiple jobholding (see Zuvekas 1978b: 12-13), which makes trends in agricultural income (or production) alone a misleading indicator of welfare, and (2) the lack of information on trends in remittance and pension income (see Part II.4 of this paper) and its distribution within any particular country.

There are two broad approaches which may be followed in seeking to obtain better information on existing levels of living and changes over time in the well-being of lower-income groups in the Caribbean Region.

One is to utilize a more comprehensive measure of income. The other is to supplement (or replace) income indicators with a variety of other level-of-living indicators, including those measuring health, education, housing, employment, and access to basic utilities and other services such as transportation and communications. Both approaches, we shall argue, should be followed.

Let us consider first the improvement of income data. The next population census, planned for 1980, could provide a better indication of income distribution by collecting data on household income rather than (or in addition to) individual income. Estimates of total household income would be more accurate if they included unearned income (particularly pensions and remittances), but reluctance to report this income might pose a serious problem. Still, unless there are good reasons for not doing so, this writer would recommend that information on unearned income be sought in the next population census. Total reported income should be disaggregated, though, so that the unearned income data can be excluded if they seem too unreliable. Particularly for farmers, but also for other self-employed persons, an effort should also be made to obtain a rough estimate of the cash cost of production inputs, which should be subtracted from gross income. Again, these figures should be available separately, so that they can be thrown out if their quality is especially poor.

Estimating the value of food produced and consumed on the farm would appear to be too difficult a task for inclusion in the data collection efforts associated with the population census. But farm-level surveys should take the time needed to obtain fairly detailed information on on-farm consumption of farm output, and input-cost data should be more detailed than what we suggested for the population census. In addition, consideration should be given to imputing the rental value of owner-occupied housing, since

housing appears to be a major investment of many low income farm households.

More information is needed, too, on the income levels and income trends of the urban poor, whose numbers are growing rapidly and among whom unemployment rates appear to be rising. Again, it is important to seek information on income from all sources, not just income from employment. Surveys focusing on household income would provide a better indication of the relationship between employment status and income than those focusing on individual income.

The second approach to research to determine levels of living emphasizes the collection of data on the satisfaction of basic human needs. Considerable information of this nature, some of which is reported in Part IV of this paper, is already available. Most of it comes from the 1960 and 1970 population censuses, and the data therein suggest that there was widespread improvement in living standards during the 1960s. Similar data presumably will be collected during the next census.

Valuable though the level-of-living indicators in the census documents may be, especially since many of them are disaggregated by sex and/or political subdivision, they do not always separate the farm population from the non-farm population. Admittedly, this is difficult to do, since a high percentage of rural dwellers are engaged in both farming and other economic activities. But from a policy perspective it would be useful to isolate rural residents whose principal activity is farming and compare their living standards with rural dwellers engaged primarily in other pursuits. There is no need for a special survey to provide this information. All that is required are additional cross-tabulations of census data already collected.

Sample surveys of both rural and urban residents should pay more

attention to measures of well-being other than income. Of the surveys discussed in Part II of this paper, Brierley's study of small farmers in Grenada (1974) is a good example of how much can be done with relatively limited resources.[1/] Considerable information was also collected in the Weir group's survey of small farmers in Dominica, Montserrat, and St. Vincent (1976), but the limitations of these data (see Part II) demonstrate that attention must also be given to presenting data in a form which fully exploits their analytical value. For both income and non-income data, both the Weir study and several others reviewed in Part II are frustrating because the tabulations do not fully take advantage of the data actually collected.

Apart from the collection of basic income and other level-of-living data, research efforts related to income and income distribution could focus on obstacles to increased income and policies for raising the incomes of both the rural and urban poor. For example, more research is needed on farmers' decision-making processes. Some surveys have already obtained information on factors affecting crop choice, but this and similar qualitative information needs to be incorporated into economic models which should be tested in the field with questionnaires that provide for more qualitative responses. We need to know more, too, about the factors that determine whether a farmer will seek to expand income from farming or to seek income from other sources. A study of part-time farming in Grenada, sponsored by AID and the OAS, is scheduled to begin in the next few months and should clarify the nature of the choices faced by this segment of the rural population. Other studies of small farmers, with different focuses, should also be considered.

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[1/] Brierley even constructs a composite level-of-living indicator to compare Grenada's six parishes; but this indicator is quite crude.

These studies may provide useful insights into the kind of income-generating programs that are most likely to improve rural standards of living.

Likewise, research of this nature is needed among the urban poor. At present, we know relatively little about the microeconomic obstacles they face in seeking to raise their incomes and have more of their basic needs satisfied. While the urban poor would be helped by improved macroeconomic conditions, attention should also be given to microeconomic policies (e.g. those affecting choice of technology) that influence their welfare.

It is important to bear in mind that the per capita costs of social and economic research in the Caribbean Region are high because of the relatively small population of all of the individual states. Even the Caribbean Region as a whole has a population of less than one million. The per-capita overhead costs of socio-economic research will tend to be lower if it is carried out by a regional organization or at least is regionally coordinated. The population censuses--which also cover the larger English-speaking Caribbean countries--provides a good model, and this vehicle should be used to collect even more socioeconomic data. Regional coordination of agricultural censuses could be improved, and consideration should be given to substituting more frequent sample surveys for these censuses. Whether the census or survey approach is used, there is room for considerable improvement in both the quantity and quality of agricultural sector data.

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