AGRICULTURAL DEVELOPMENT WITH UNLIMITED LAND

THE CASE OF BRITISH HONDURAS

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Introduction

The term unlimited is used in this context mainly to warn that the paper deals with agriculture in a resource endowment situation which differs significantly from the situation to which we have become accustomed in the Caribbean. In the island economies, a major problem of agricultural development is the high ratio of population to agricultural land. By comparison, the ratio of population to agricultural land in British Honduras is low yet agricultural development in terms of increased productivity per unit of input has hardly changed.

The point is made in an effort to induce a mental orientation from the outset, as well as to voice disagreement with the technical use of the term "unlimited" in the literature as synonymous with the term elastic in describing factor supply. Such use of the term assumes the feasibility of one supply curve for say, land or labour. In fact, there are as many supply curves as there are types and qualities of a resource. Any denial of this differentiation can only lead to a distortion of the resource inventory with consequential waste of resources.

Agricultural development, particularly in backward societies, is a complex process, the achievement of which depends on the contribution of a number of diverse factors. In such a situation, it is difficult to allot relative importance ratings to the factors which are required to promote, or to release the constraints on, the development of agriculture. However, it is clear that knowledge of the land and its potential are fundamental. Where rapid agricultural development is desired, the process of trial and error is too time consuming and must give way to the employment of modern, scientific knowledge to obtain basic information about the land—to allow the identification of different types of land in sufficient detail to enable efficient land use; and to provide lines for the formulation of policies for the effective use of their inputs that are required to maximise productivity in agriculture.

This paper is accordingly primarily concerned to show on the basis particularly of the post World War II efforts to develop agriculture in British Honduras, how deficient and objectiveless planning and other efforts designed for agricultural development can be, when they are carried out in an environment which deliberately or otherwise denies knowledge of the land, its potential, and its capability, as fundamental.

Brief Comparisons with the West Indies

Appendix I shows that the agricultural land area of British Honduras is slightly larger than the total agricultural land area of the islands of the Commonwealth Caribbean — the former has 2,158,000 acres while the latter have 2,035,000 acres. On the other hand, the total population of the islands is thirty-two times as large as the population of British Honduras. The one is 3,108,173 and the other 106,000. To illustrate a little more vividly — Trinidad and Tobago has nine times the population of British Honduras, but only one-sixth of the latter's area of agricultural land. Finally, Grenada with a total population and an agricultural labour force roughly similar to British Honduras, has an agricultural land area equal to only 1/46th of the agricultural land area of the latter.

In keeping with orthodox economic theories about resource allocation and resource use, economic policy should aim at maximising the return to the scarce factor. To the end, agriculture in the islands should be labour intensive — labour being the abundant factor and land the scarce factor. On the other hand, agriculture in British Honduras should tend towards the opposite direction — that is, a high ratio of land the abundant factor, to labour the scarce factor. Concomitantly, the marginal productivity of agricultural labour in British Honduras should be high relative to the marginal productivity of agricultural labour in the island territories.

This theoretical pattern has not emerged. According to Appendix I, the ratio of agricultural land in use per agricultural worker in the islands is 5.5 acres — the comparable figure for British Honduras is 9.4 acres. In terms of percentages, the comparison reveals a significant difference, but in terms of absolute sizes the two ratios are generically in the same category.

The average value of output per agricultural worker is $958 and $900 in British Honduras and the island territories respectively. Of the nine territories included in the Table, the figures of output per worker in five are higher than in British Honduras. This is the second point of deviation from the theoretical norm.

A comparison of the distribution of farm holdings according to size groups does not significantly reflect the disparity in resource proportions between British Honduras and the Islands. Although the sizes of the farm holdings in the latter tend to be smaller than in British Honduras, it is interesting to note the similarity in the broad base of holdings in the 0–100 acres category between the two, at Table 1 illustrates.

Table. 1 Distribution of Farm Holdings : Br. Honduras & The West Indies, 1960

Size of Holding	Br. Honduras (%)	West Indies (%)
0 – 5 acres	22.5	78.8
5 – 100 ''	73.5	20.6
100+ acres	4.0	0.6
ALL	100.0	100.0

Sources : *A Digest of Agricultural Statistics,* U.W.I., 1965 and, *British Honduras Digest of Statistics,* 1965.

This situation is not consonant with the development needs of the British Honduras economy which, as the following analysis indicates, depends on improved productivity in agriculture.

Agriculture's Strategic Role

Briefly, the traditional major industry — timber — has declined and will continue to decline as the per capita output of forest products decreases. This progressive deterioration of the forest asset is the result of generations of uncontrolled exploitation without countervailing measures of regeneration and forest improvement, and more recently of severe hurricanes.[1] Accordingly the industry can no longer fill the role of providing the means for improving the level of income per capita.[2] There is some potential in fishing and tourism, but even the most optimistic would not regard these as likely major potential contributors to the national income. With regard to manufacturing, the country is unfortunately not endowed naturally nor is it well placed to acquire the factors that make for any but the most rudimentary

1 Comd. 7533, **Report of the British Guiana and British Honduras Settlement Commission,** Sept. 1948, (p. 246)

2 U.N. TAO/BRHO/1 **A Development Plan for British Honduras,** June 1963, (p. 7).

development. It has neither the raw materials, the skilled labour force, the quantum of labour, the entrepreneurship, the capital, nor the domestic market, to ensure marketing development on more than a negligible scale except for the processing of agricultural output. On the basis of the country's known resources— natural, acquired and acquirable — there is only one other sector to which recourse might be had — it is to agriculture.

The apparent failure of British Honduras to follow the theoretical pattern and to develop an agriculture based on the maximisation of the return to labour on the one hand, and the strategic importance of agriculture as the economy's principal growth point on the other, indicate the line to be pursued, i.e., an analysis of agriculture in British Honduras, its history, its performance, government's efforts to promote agricultural development, an examination of broad policy issues, and the formulation of certain basic policy recommendations based on the analysis.

In order to understand fully the present state of agriculture, it is necessary to view it in the perspective of the country's economic history. I propose to proceed by analysing the history of the forest economy with particular reference to the effects it has probably had on the emergence and growth of an agricultural economy up to the beginning of the Second World War and then by examining the role of the Government in promoting agricultural development, particularly in the post World War II period.

Effects of The Forest Economy on Agriculture

The settlement of the area by those who may be regarded as forming the nucleus of the growth of the present economy occurred around the middle of the seventeenth century. They had been attracted by the economic potential of the forests, more particularly the value of the stocks of logwood. The 'raison d'etre' for this early settlement was to dominate the life and the economy of the area for three centuries. After the decline of logwood, the inhabitants turned to mahogany which was the mainstay of the economy for a century and a half. More recently, the severe depletion of the stocks of accessible mahogany focussed attention on the exploitation of pine and certain of the marketable secondary hardwoods.

In effect, the area began as a one-product economy, completely dependent on international trade. It maintained that pattern virtually without change through to the mid twentieth century. The Treaty of Utrecht of 1713 confirmed previous agreements which "defined the privileges of the settlers in terms

of "cutting, loading and carrying away" the logs they expressly prohibited the establishment of plantations. . . ."[3] Consequently, a pattern developed in which the colony produced and exported forest products on the one hand and imported virtually all its requirements of food, other consumption goods and capital. To illustrate — in 1950, exports of forest products still constituted 83% of total exports and it is only since 1964 that forest products have not exceeded 50% of total exports. As recently as 1960, as much as one-third of the imports consisted of food items. In 1959, the most recent year for which fairly reliable National Income figures are available, the import bill amounted to two-thirds of the G.D.P. and about 22% of the G.D.P. was used to pay for imports of food.[4]

Many of the features of the forest economy were antithetic to the establishment and development of agriculture. At least one early feature has been identified— i.e. the objection of the Spaniards as long as they maintained hegemony over the area, to any permanent settlement based on the plantation. This relegated agriculture to the status of the backward kitchen garden. The more important of the other relevant features will now be analysed and discussed.

The very practice of forest operations in British Honduras created a psychology which was bound to discourage agriculture. Carey Jones[5] describes it in the following words— "historically the picture is one of continuous exploitation of the forest resources of the colony with the sporadic settlement of small groups of agriculturists in the 19th century. It is almost a classic of colonial exploitation, of taking away and not giving back. . . ." Here was a situation, an atmosphere in which the investment required was negligible, the gestation period was virtually nil and the risks and uncertainties were minimal compared with agriculture. Clearly, as long as this source of income could satisfy an increasing per capita income, agriculture could not be regarded as attractive.

The pattern of work of the labour force was one in which workers were engaged in timber camps for say, nine months each year, followed by three months of free time in the towns and

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3 Comd. 7533 **Op. cit** (p. 204)

4 ". . . . the colony is dependent to an extraordinary extent on imports for most of the necessities of life . ." **Report on the Financial & Economic Position of British Honduras,** (Comd. 4586), by Sir Alan Pim.

5 N. S. Carey Jones, **The Pattern of a dependent** Economy, Cambridge University Press, 1953, (p. 18)

villages. This created a preference for leisure which was irreconcilable with the demands of permanent, agricultural labour.

Forest operators are known to have actively discouraged agriculture for fear that their workers might be induced away with consequential rising wages. The logic of this is doubtful since the industry has paid relatively high wages, particularly compared with agriculture.[6]

Forestry required little skill in the labour force. The tree was "hunted", cut, and exported in the form of a log. The technology employed was rudimentary and by and large, the axe, the machette and the saw were the workman's only equipment. It is only within recent years that some processing, requiring a little more skill and providing some forward linkage, was introduced.

Unlike the plantation economy in the islands, the timber economy was not labour intensive. This has led to a marked contrast between the demographic features of British Honduras and of the islands. The country's labour force and its market are small.

It will shortly emerge in succeeding analyses that most of the agriculture practised has fallen into two categories—subsistence "farming" which could hardly be inspiring, particularly to the forest worker, and large-scale farming which mainly failed. These two factors gave agriculture an inferior status — one in which no self respecting forest worker would seek engagement.

The final feature of the forest economy with important portents for agricultural development, is the combination of the type of alienation and pattern of distribution of land. The exploitation of the forests was based on concessions over and grants of large tracts of land to persons and concerns, most of whom were not domiciled in the country and whose only interest was the exploitation of its forests.

Accordingly, the freehold of half, i.e., 2,330,000 acres of the country's 5,680,000 acres has been alienated in large holdings and held mainly by absentee landowners as shown in the following table :—

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6 "The point to be made is that British Honduras labour is dear by W.I. standards. This discouraged any development of agriculture under the plantation, or large estate system" — N. S. Carey Jones, **Op. cit.**, (p. 111)

Table 2. Distribution of Land in Freehold Ownership, Br. Honduras, 1960.

Size of Holding (acres)	All Owners (numbers)	All Owners (acres)	Absentee Owners (numbers)	Absentee Owners (acres)
0 – 20	4,840	38,000	n.a.	n.a.
21 – 100	1,080	43,000	"	"
101 – 1,000	240	92,000	"	"
1,001 – 10,000	61	232,000	17	69,000
10,001 – 25,000	31	408,000	20	306,000
25,001 – 50,000	6	192,000	4	145,000
50,001 – 100,000	3	183,000	1	55,000
Over 100,000	2	1,142,000	2	1,142,000
ALL	6,263	2,330,000	44	1,717,000

Source : *Report of the Committee on Agriculture,* Br. Honduras, 1960.

One concern possesses over 1 million acres — nearly half the alienated area. Of the 41 owners of holdings exceeding 10,000 acres each, 27 are absentee. There is nothing inherently economically wrong with alienating land in such large holdings. The feature that makes for bad economies is the virtual freezing of large areas of the country's most accessible agriculturally suitable lands in the possession of persons who have no interest in agricultural development.[7]

Early Agriculture

Despite the overwhelming dominance of the Forest Economy for three centuries, notable attempts at agriculture occurred, particularly in roughly the century up to the beginning of World War II. Our attention will now be directed to these.

As mentioned earlier, the attempts fell roughly into two main types — a subsistence type and a semi-plantation/family farm type based on permanent crops for the export market. Subsistence agriculture was established and practised by three groups, namely : (a) the Caribs who migrated to the colony from the early 19th century onwards, settled in the Stann Creek and Toledo districts

7 "Most of the accessible areas of the good lands are owned by absentee land owners who have no intention of developing the land" **B. H. Development Plan, 1964 — 1970, (p. 26).**

and engaged in producing plantains and root crops, mainly cassava, for subsistence; (b) the Indians and Mestizos who escaped to the northern district of Corozal from the Yucatan massacres in 1849. They raised maize, pigs and poultry, mainly for subsistence; and (c) the remaining group of subsistence farmers are the Kekchi and Maya Indians from Guatemala. They settled in the Toledo and Cayo districts and engaged in producing maize and pigs for subsistence.

These three groups, with the addition of a few creoles who have engaged in subsistence farming mainly along the banks of the rivers in the Belize district, and a few East Indians who came as indentured workers, continue an unbroken record of agricultural activity through to the present. These are the "farmers" of British Honduras. Unfortunately, the factor of continuity applies with equal force to their primitive agricultural practices, the techniques of which have remained virtually unchanged over the years. They carry on a shifting type of agriculture, their main tools are the box of matches, an axe and a machette, and in some cases, the hoe — they hardly cultivate or use fertilizers and the admittedly limited extension work done among them has met with little success.

The second and technically more permanent type of agriculture was practised by two distinct categories — the individual and the non-corporate group, and the corporate concern. The former comprised (a) the Spanish who with the Indians already referred to, fled the 1847 massacre in Yucatan. They produced cane sugar and coconuts, small surpluses of which were exported. (b) the Kramers — German nationals who had extensive cocoa operations at Kendal on the Sittee River and at Dolores on the Sarstoon River (c) about 200 families who left the Southern United States during and at the end of the American Civil War and established themselves on grants of land in the Toledo district. Their principal crop was Sugar and as in the Corozal district a number of sugar "factories" was established (d) about 450 distressed Italian agricultural labourers who fled from Guatemala in 1879 and settled and engaged in Sugar in the Manatee area and (e) a coffee estate in the Cayo district employing Maya Indians.

Except for the Yucatan Spaniards who settled in Corozal, all the settlements were short-lived. They soon failed and the settlers left the Colony. The failure was "partly as a result of bad management, but equally due to difficult river transport down to the coast, uncertainty of shipping arrangements and fluctuating

prices on overseas markets. . . ."[8] The Yucatan Spaniards continued producing small quantities of sugar and substantial quantities of coconuts.[9] They formed the nucleus of the local sugar cane producers when the industry began to expand in the late 1950's.

The three more significant of the Corporate concerns that established agricultural enterprises in the period up to the beginning of World War II are (a) the United Fruit Company which produced bananas in the Stann Creek Valley and bought and marketed bananas produced by other growers in the Stann Creek and Toledo districts; (b) the Tropical Oil Products Company which started a Cohune operation in the Toledo District and (c) the Empire Starch Products Ltd. which produced cassava and established a plant to produce starch for export.

All three enterprises were afterwards abandoned, the banana mainly because of Panama Disease, the Cohune because of the depression in 1930 and of technical difficulties of cracking the nut, and the cassava because of unexpected low yields and the unreliability of local producers who were to supply the factory, resulting in insufficient throughput and consequent under-utilisation of the plant.

This section would be incomplete without reference to two other approaches to develop agriculture in the colony.

A system of making land available on "location ticket" was introduced in 1915 to enable small farmers to obtain land on freehold cheaply after certain stipulated developments are undertaken. The failure[10] of the system to evoke the desired development is evidenced in the following table which shows that a high proportion of the "farm" holdings is in private leases of small plots.

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8 **Colonial Research Publication No. 24, op. cit.,** (p. 118).

9 "Peak exports in the past (around the turn of the century) have amounted to 6,000,000 nuts annually". **Commodity Series Paper No. 3,** The Secretariat, British Honduras, May 1955.

10 "We consider that the great weakness of the present Location Ticket System is the apparent reluctance of Government to enforce strictly the terms and conditions of the Tickets, with the result that the development of the system which is intended to ensure does not in fact, take place ...." **Report of the Land Administration Committee, 1961,** (p. 9).

Table 3. Tenancy of Farmers, Br. Honduras, 1960

Type of Tenure	*No. of Farms*
(a) Freehold	1,355
(b) Location Ticket awaiting title	968
(c) Poll Rental (Crown)	748
(d) Leasehold (Private)	2,873
ALL	5,944

Source : *Report of the Committe on Agriculture,* Br. Honduras, 1960.

In the 1930's, the Government sponsored and supported three small settlement schemes — one in the Stann Creek District and two in the Belize District. They all failed because they lacked the basic requirements for successful land settlement. Indeed, it appears that land development was not the end but rather the means. The primary objective was to absorb some of the unemployed residents of Belize, of whom it has been written that "they have no agricultural aptitude or inclinations and are exceedingly unwilling to separate themselves from Belize".[11]

We have come to the conclusion of an era in the country's economic history. What conclusions can be drawn from our analysis so far, that might help to explain the failure of British Honduras agriculture to conform to the pattern which might be expected on the basis of economic theory ?

First the dominance of the forest industry over such a long period created an atmosphere of relatively "easy" earnings and profits, a small, high priced and unskilled labour force, a small domestic market, a tradition of importing a substantial volume of the food requirements and a pattern of land alienation and distribution — all of which are out of accord with the needs of agricultural development. Second, there was a series of failures in agriculture after several attempts to develop different crops in different areas of the country under different types of organization. The failures are explained in terms of inefficient management, plant diseases, inadequate transport facilities, the vagaries of the world market for primary products and in some cases, one suspects the lack of the will to persevere. Apart from the small beginnings of citrus in the Stann Creek Valley, virtually the only agriculture

11 Sir Allan Pim, 1934, **op. cit.**

left in the country was the subsistence farming of the Amerindians, the Caribs, the East Indians, and the few creoles mainly along the banks of the rivers of the Belize district. This was farming at its most primitive, carried on by the least literate. Only a small surplus was left for the domestic market. Indeed most of these farmers depended on casual paid employment to provide a cash income.

Viewed in the context of the second half of the ninteenth century in which the provision of a range of services by Governments to assist agricultural development had received wide acceptance, some might deduce that the failures in agriculture and the primitive state of what was left of the industry, were due partly to the absence of these services, that is — to the lack of an agricultural infra-structure.

In fact, the Government did not remain altogether inactive— for example, reference was made earlier to Government supported land settlement schemes, the nucleus of an agricultural service was provided with the appointment of the first agricultural officer in 1927, some financial assistance was given to the cassava operations of the Empire Starch Products Ltd. and the visits of a number of experts were financed from public funds.[12] However, it must be realised that essentially we are dealing with a period of which Dr. A. R. Prest has written : "Local Governments (of the British Caribbean) were there mainly to preserve peace and order — their job was to hold the ring for private enterprise as it were, but on no account or at any rate only in the direst emergency to enter the arena. . . ., there was a natural abhorrence for the mysteries of such obscure and mystifying subjects as economics".[13]

Deliberate Efforts To Develop Agriculture

The enactment of the first C.D. & W. Act in 1945 gave effect to the new attitude to colonial development. Funds were provided for economic and social development. A pre-condition of obtaining these funds was the preparation of long-term development plans for their use.

During the twenty year period to 1965, British Honduras received a number of allocations totalling over $30m. In the

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12 "If reports could bring prosperity, this colony should be in a favourable position, as to go no further back than 1920, the valuable reports of Mr. Dunlop, Mr. Sampson and Mr. Stockdale have dealt with the agricultural position and made many practical suggestions for its amendments." Sir Allan Pim, **op. cit.**

13 **Colonial Research Studies No. 23** H.M.G., 1957.

first four allocations construction works received the largest share of each allocation. Agricultural development received 7, 30, 20 and 15 per cent, respectively.

Main roads to "open up" new lands and feeder roads to improve the efficiency of transportation between farm and market have been built. Further, funds have been used to (i) strengthen the agricultural service by employing more and better qualified extension staff, research scientists and crop specialists, (ii) provide facilities and staff to undertake agricultural education, (iii) provide facilities for laboratory and field research and trials, (iv) enable a specialist team to make a Land Use Survey, (v) provide agricultural credit, (vi) establish a marketing agency for local and overseas sales of agricultural produce, (vii) provide cash subsidies as well as subsidised planting materials and services such as cadastral surveys, (viii) employ visiting specialists and advisers, (ix) provide land clearing equipment and services, (x) finance the establishment of a special organization to administer land matters, (xi) establish rural development agencies such as community development co-operatives and health and (xii) establish and maintain demonstration plots.

The Development Incentives Ordinance was passed in 1960 to provide a tax holiday period of up to 15 years in respect of development enterprises including agricultural enterprises. Also the duty free entry of equipment for agricultural purposes, has been allowed in an effort to encourage the improvement of farming practices.

The Colonial Development Corporation — the United Kingdom Government's private enterprise arm in colonial development — acquired about 300,000 acres of land in fairly large tracts in different parts of the country and undertook to establish and develop enterprises in cocoa, citrus, bananas, livestock and ramie.

A number of truly private, mainly foreign owned and operated agricultural enterprises in tobacco, rice, cocoa, citrus and bananas have also been attempted.

Special arrangements exist for the marketing of certain quantities of sugar through the Commonwealth Sugar Agreement and in the U.S.A. and of Citrus in the United Kingdom.

This is an impressive catalogue of efforts to develop agriculture in British Honduras in the post World War II period. And although care should be taken not to expect spectacular developments in such a relatively short period, it is surely not too much to expect some tangible signs of moves away from the stigmas

"primitive agriculture" and "agricultural failures" which have characterised the country's agriculture in the past. What then is the situation? To what extent has consequential, agricultural progress been achieved?

The most recent date for which fairly reliable information and data are available, is 1964. It is therefore with the situation at that period that we shall be concerned although later on we shall also briefly review subsequent developments.

We shall proceed by considering first the recent trend in agricultural production and the factors that have affected it, second the structure of the industry, third the further private efforts that have been made to develop various crops and finally, we shall evaluate the policy measures that the Goverment has sought to implement to assist agricultural development.

Agricultural production for export grew at the significant rate of 26% per annum in the ten year period to 1964. This is comprised almost completely of two crops — sugar and citrus.

Without wishing to detract from the significance of the production performance, perhaps I should warn that this is partly due to the illusion created by applying percentages to small numbers associated with rapid production increase in the early phases of development. For example, sugar production was 2,413 tons in 1954, 4,503 tons in 1955 and 33,591 tons in 1964.

The criterion of agricultural development is, however, not increased production per se, but whether the increased production is the result of increased productivity per unit of the basic factors —land and labour.

In the case of sugar, reliable productivity data are available. The average number of tons of cane per acre reaped was as follows :—

Table 4. Sugar Cane Productivity : Br. Honduras, 1958–1964 (per acre)

1958	1959	1960	1961	1962	1963	1964
14.51	20.74	12.34	18.72	19.41	16.18	19.45

Source : *Sugar Cane production in Br. Honduras* Dept. of Agric. Report, April 1965.

These are low by any comparison. The other notable feature is failure of productivity per acre to show an increasing trend. With regard to labour productivity, reliable figures of numbers employed

in the industry during this period are not available, however, there is every indication that the number of workers increased almost proportionately with the growth of total output.

Productivity figures in citrus are unfortunately not particularly reliable. It is considered that in oranges, productivity per tree has increased from about 1.75 boxes per tree in 1959 to an estimated 2½ boxes per tre in 1964.[14] The industry tended to be operated on a labour intensive basis and it is doubtful if there has been a comparable improvement in labour productivity.

The remaining factor to consider in relation to export agriculture is the market situation. The development of both sugar and citrus in British Honduras, like the island territories, was based on preferential market and price arrangements. This is one of the weaknesses in the economy which is identified in the report of the United Nations Economic Survey Mission.[15] Should the United Kingdom join the European Economic Community and abandon the Commonwealth Sugar Agreement on the one hand, and the preferential citrus arrangements and prices on the other, both industries would subside. While Brazilian growers are delivering citrus to the factory at 55 cents (U.S.) per field box, it is costing the British Honduran farmer about 56 cents U.S. to produce a box of fruit.

To sum up, while production of export agriculture has increased significantly, productivity and consequently, real development, has lagged behind. Moreover, the dependence on special preferential marketing arrangements is a source of weakness.

Because of the lack of data on production for the domestic market, our assessment of the performance of this sector will have to be based on the movements of imports of food items in recent years. During the 10 years to 1964, the cost of food imports increased at 9% per annum. This is more than may be accounted for in terms of population increase, price increases, increased per capita consumption and a shift from domestically produced items to imported items. In effect, it means that not only is food production not increasing sufficiently to allow for an important element of import substitution, it is perhaps not

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14. **Report of the Department of Agriculture, Br. Honduras, 1964.**

15 Also "the main export crops are excessively dependent on special arrangements and protected markets abroad for exports." **Report of the Tripartite Economic Survey of British Honduras,** May 1966.

increasing as fast as the rate of population growth. The situation would be worse but for the important contribution to local food protection, that the Mennonites[16] have made since 1960.

Let us now review the structure of the industry. The structure of the export sector is given in the following two tables :

Table 5. Distribution of Sugar Cane Holdings & Production : Br. Honduras, 1960

Size of Holdings (*Acres*)	*No. of Holdings*	*Sugar Cane produced 1960* (*Tons*)
1 – 5	183	6,855
6 – 10	77	9,435
11 – 15	49	10,452
16 – 25	41	14,110
26 – 50	29	12,345
51 – 100	19	20,240
101 – 200	7	20,870
201 – 300	6	28,360
301 – 400	1	6,912
Over 400	2	56,353
ALL	414	185,932

Source : *Report on the Committee on Agriculture, Br. Honduras, 1960*

Table 6. Distribution of Citrus Holdings : Br. Honduras, 1960

Size of Holdings (*Acres*)	*Oranges*		*Grapefruit*	
	No. of Growers	*Total Acreage*	*No. of Growers*	*Total Acreage*
0 – 5	115	200.58	100	186.37
6 – 20	26	214.25	12	87.93
11 – 25	17	290.50	10	151.67
26 – 50	6	258.59	4	159.09
51 – 100	3	233.25	nil	nil
Over 100	5	2,990.25	2	604.00
ALL	172	4,187.42	128	1,189.06

Source : *Report on the Committee on Agriculture, Br. Honduras, 1960*

16 A puritanical agricultural group who emigrated from Mexico and Canada starting around 1959.

Both structural pyramids share the characteristics of a broad base comprising a large number of small producers, rising sharply with a slight break for a few medium producers in sugar, to a thin apex of a very small number of large farmers. 71% of the sugar cane is produced by 8% of the producers. In citrus about 72% of the total acreage is owned by 3% of the growers. These figures are for 1960, there is good reason to believe that the disparity between the apex and the base is now much larger.

The vast majority of the small farmers belong to the low productivity type who regard the production of these export crops as a convenient annexe to their subsistence activities.[17] With few exceptions, the medium producers in sugar cane follow identical cultural practices as the small producers.

The structure of the sector that produces for domestic consumption was recently investigated by Dr. Nair, U.N. Technical Assistance Expert. His findings are that some 40% of the territory's population live in the rural areas and depend primarily on a backward agriculture and whatever paid employment they can obtain, for a livelihood. Their holdings average 8 acres and the total average annual income per family of about five persons is $576 T.T., well below the national average per capital of $524 T.T. in 1964.[18]

We now turn to the private efforts to develop various crops. Perhaps the most significant are the attempts of the Colonial Development Corporation already referred to, to develop enterprises in cocoa, citrus, bananas, livestock and ramie. With the possible exception of citrus all failed due variously to alleged poor management, insufficient pre-investment studies, and an unfavourable shipping situation.

The Humingbird Development Company Limited, a foreign owned concern, cleared some 2,000 acres and developed about a half of this area in cocoa. The enterprise has been virtually abandoned and the company has gone into voluntary liquidation. The alleged causes of failure are poor management and the ravages of hurricane "Hattie". The company had a long-term marketing contract with a purchaser in the United Kingdom.

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17 "The cane farmer must soon realise that sugar cane is too demanding a crop to be treated by milpa (shifting subsistence) standards." UN/TAO/BRHO/1, **op. cit.**, Part II (p. 10).

18 See **Report of the Tripartite Econimic Survey, op. cit.**

In the early 1950s, Messrs. Greene and Atkins, an American concern, obtained concessions to develop a banana enterprise. About 1,300 acres have been planted. The enterprise is still in operation but in such a precarious way, that an expert was recently invited to assess whether it is likely to be profitable. The problems of the enterprise appear to have stemmed from hurricane damage, plant disease, poor management and a shortage of working capital. The expert has advised that given good management the enterprise should be technically feasible. The prospective economic feasibility has not been assessed.

With regard to bananas, both the United Fruit Company and Elders & Fyffes have shown interest in developing banana enterprises. Indeed, anxiety for such development led the Government to announce that the United Fruit Company had agreed to establish such an enterprise. In the event both firms decided against. The reason given in each case is that there is not a sufficiently large block of suitable banana land for commercial development — on the scale on which these firms operate.

A tobacco enterprise was established to provide for local cigarette manufacture and for export. This was short-lived because of problems of management, the poor response of local farmers and the dwindling local market.

In citrus, a foreign concern, Salada (B.H.) Limited acquired the C.D.C. citrus operations and has expanded the plantation and established a plant to produce frozen concentrate. The fall in citrus prices over the past few years, has led to some slowing down in these operations.

The Government pioneered a mechanised rice producing project and afterwards sold it to a foreign concern. The lack of success of the project may be judged from the fact that the concern has consistently faltered in meeting its capital amortisation obligations.

In livestock, about four enterprises in the 1,000 to 2,000 head category have been established to produce beef. They seem to be succeeding and the prospects for import substitution and export appear to be conducive to significant future expansion.

The foregoing analysis of the post war situation, replete with evidence of Government and private efforts to promote agricultural development, is reminiscent of the failures of the past. Why is it that these efforts containing the provision of credit, marketing facilities, extension services, research, agricultural education, rural development services, roads, fiscal incentives —

the stock prescriptions for agricultural development, do not seem to be succeeding?

The reply to this question will be approached in two stages—first, a consideration of Government's overall policy and its basis, second an examination of each of the principal efforts to promote agricultural development.

The Government's policies and plans have not been based on a concerted effort at studying the economy and analysing its problems using the tools which are likely to produce technically competent answers. The Development Plans were based on projects by Departmental heads and to some extent a number of reports produced by visiting experts. In some instances, the reports written by eminent experts were in conflict on fundamental matters and consequently confused the policy makers.

Three examples will serve to illustrate: the first concerns priority as between agriculture and forestry in the country's development. The Evans Commission (1948), the Colonial Development Corporation, (1950), David Gordon of the I.B.R.D. (1954), and S. N. Carey Jones (1953) who produced the first study of the country's national income — all recommended, to use David Gordon's words, that "the best prospects for sustained economic growth, however, lie in agriculture" and that "agriculture should gradually be replacing timber production as the country's principal activity as the rural population increases."[19] On the other hand, the Land Use Survey Team (1954) and the Frampton Team (1954) whose function was to prepare a plan for the development of the country's agriculture, held the opposite view. The latter stated clearly ". . . . . We endorse the view of the Land Use Survey Team that British Honduras is essentially suited to forest industries rather than agriculture. It would be unsound to disregard the implications of this fact in promoting the development of agriculture".[20]

The debate was not new, it had been conducted with varying intensity from time to time since 1867 when the then Governor stressed the point that "agriculture . . . . was the only hope" for the colony. However, at a time when development required the taking of bold and decisive steps, this lack of agreement among

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19 David Gordon, **op. cit.**, (p. 27).

20 Report of the team led by A. deK. Frampton, Adviser to the Comptroller for Development and Welfare in the West Indies, (p. 7).

the experts created uncertainty and indecision. It was not until Downie [21] reported in 1960 that the question was finally resolved in favour of agriculture. It has since been endorsed by a number of Committees and visiting experts.

The second important question that has remained unanswered concerns the structure of agriculture. The influential Evans Commission (1947) may be said to have come down on the side of plantation agriculture. Most of the other teams of experts — The Land Use Survey (1954), the Frampton Team (1954), Jack Downie (1960), recommended small scale peasant type agriculture. Of these only the Land Use Survey team have tried to justify their stand in terms of appropriate scientific agricultural or economic criteria. According to them "...the intricate soil pattern also makes large scale estate production of orchard and arable crops extremely difficult. Mixed farming on small holdings approaches the nearest to the ideal type of land use in British Honduras. . . ." The others seem to have based their proposals on social, political or other criteria.

Out of this debate has finally emerged something of a compromise policy of encouraging all three main sizes of farm holding —namely plantation, medium size, and the small family farm. Again this is not based on appropriate agricultural or economic criteria. The detailed economic and other studies recommended by the Land Use Survey Team to follow up their work, on the basis of which a decision might be possible, have not been undertaken. Not one of the long list of visiting experts, advisers and observers has written specifically in the field of agricultural economics. The debate continues.[22]

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21 Jack Downie: **An Economic Policy for British Honduras**, The Government Printer, Belize City, 1960.

22 In its introductory Chapter, at Paragraph 18, the Tripartite report considers that "the basic strategy of development should be to develop agriculture extensively through production in larger rather than small scale units." It must be emphasised that the traditional agriculture of this country is small scale and, although the importance of developing efficient large-scale producing units is accepted, Government considers that it is essential to encourage the growth of small, efficient farms side by side with large producing units. In any event, it would be unwise on practical grounds alone not to develop peasant farming. Government will of course continue its policy of trying to get small farmers to combine into more manageable units through co-operative effort where this is feasible and desirable in the interest of great efficiency. **Official Comments on the Report of the Tripartite Survey Mission**, December 1966, (p. 3).

The last of the principal points on which a policy decision is essential in the interest of agricultural development is manpower. Is development to be based on immigrant labour or on the "indigenous" labour force ?

Here again, opinion and advice were divided although less so than on the two previous points. All the Commissions, teams and experts viz : Evans, Frampton, Gordon, Downie — except the Land Use Survey Team[23] consider increased population through immigration as essential to agricultural development.

A decision might well have been taken but for strong public agitation against immigration, based on the presentation of immigration by certain political leaders, as a means of importing unemployed West Indians to displace employed British Hondurans.

More recently a policy of "open door" immigration with qualifications was enunciated. In practice, however, it has no real meaning in terms of the need for a decision on which positive action should be taken.

A number of important questions remained unanswered because of the lack of decision on these three vital points. For example, if immigration is not to be encouraged, then who is to engage in developing agriculture ?

Is it to be done by educating and training the existing rural population through intensive extension work and by training the rural youth in the schools? Is it to be done by encouraging some of the surplus urban population into agriculture ? What areas are to be developed and in what crops ?

Because these questions were never posed, no consideration was given to some of the most fundamental elements of agricultural development. The various studies suggested by the Land Use Survey Mission as a follow-up to their basic survey work, were not carried out. The data required to guide objective policy, on land use, land tenure, agricultural education, etc., were not sought.

In the circumstances, much of what has occurred in agriculture, in independent, private development, as well as in Government promoted development, has been by way of shots in the dark. As we have already observed, most of the shots have missed with consequential waste of scarce resources.

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23 "Nor would any such scheme (settling immigrants) be fair on the existing farmers, who, with the best will in the world, have tried and have been unable to make their small holdings pay . . . ." **Land Use Survey Report,** (p. 4).

Because of the failure to ask the above questions, the legacies of constraints on agricultural development inherited from the timber economy, were not attached. For example, nothing was done to remove the land constraint, consequently the pattern of land holding and locational distribution, although antithetical to agricultural development, has remained unchanged. The building of a number of roads "to open up new lands" has been another shot in the dark. These new lands were mainly in private absentee ownership with no wish to develop agriculture.

The failure to decide who should develop the lands, has resulted in the failure to attack the timber economy legacy of the adverse attitude to agriculture by labour and capital alike.

In this type of environment, by and large, it was enough that the Land Use Survey Team had found some 2m. acres of agricultural land. Land was land — a homogenous commodity, its various types, the uses of the various types, the economics of the use of these various types, were neglected despite the team's warning about there being few large areas with uniform soils.

We now turn from the analysis of overall policy considerations to the measures actually taken by the Government.

The absence of decisions on fundamental matters creates a situation analogous to a rudderless ship whose crew are charged with moving in a forward direction. It is known that if they are to be remotely successful, they must be kept supplied with certain necessities — for example, fuel and rations — accordingly these are supplied. But this is a wasteful way to seek to move forward. This analogy typifies the Government's efforts to promote agricultural development.[24] Briefly, there has been a rapid turnover of the senior *extension* staff and in particular of the technical headship of the agricultural department. This is especially disastrous in a situation in which "policies" relating to agriculture have in fact been made by the incumbent of that office. Moreover, a number of senior extension posts were always unfilled and to quote the Committee on Agriculture 1960 regarding junior extension staff, "The Farm Demonstrators are not adequately equipped for the job. We see little good in calling a man a Farm Demonstrator and turning him loose on the farming public without something effective to offer. This is undoubtedly a case of the blind leading

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24 "We were perturbed to find almost everywhere a sense of frustration and aimlessness . . . . we heard a great deal about lack of definition of policy . . ." **Report of the Committee on Agriculture, 1960, op. cit.** para. 300.

the blind and we consider that a determined effort should be made to correct the position".[25] The position has deteriorated since the writing of the Report.

Research has never been properly established due, as in the case of extension, to rapid staff turnover and to consequential lack of continuity. At present, virtually the only research in progress is that being conducted by the Caribbean Citrus Research Organization.

The *Credits* fund which was intedned to be a revolving fund, has ground to a virtual halt because of poor organisation and the indifference of borrowers to their indebtedness.

A statutory *Marketing* Board has been in operation for many years. Even the most cursory examination will reveal that its impact on agricultural development has been negligible. Primarily, it has been a monopoly dealer in rice. Buying and selling imported rice at a profit in order to subsidise inefficient local production. It is worth nothing that in the ten years to 1964, the volume of rice imported increased at just over 3% per annum, that is, at about the same rate as population growth.

The Agricultural *Education* scheme involved erecting buildings, acquiring equipment and employing suitably qualified staff. The scheme got off to a good start but has been in a state of "limbo" since the departure of the first Agricultural Education Officer over 10 years ago. The more recently established Lynam Agricultural College does no more than prepare lads for the G.C.E. "O" level. Because of the absence of direction, the agricultural education of the rural youth, destined to go on to the land, has been neglected.

The final principal Government input has been *communications,* mainly roads. We have already touched briefly on the main roads. Instead of "opening new lands" they have merely provided an excuse for landowners to raise the prices at which they will dispose of their holdings, thereby in effect "closing off" lands. A number of feeder roads have been built to facilitate the marketing of produce. They are helping to achieve that end in a general way. Except, possibly for the feeder roads in the sugar areas, it is doubtful whether the ratio of benefits to cost in the feeder roads programme would exceed unity.

To return to our analogy, many of the requirements for a successful journey have been provided, but the ship continues to flounder due to a lack of direction and consequently of the

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25 Ibid Para. 315.

necessities which can only be determined after the direction has been fixed. These will be the subject of our broad policy proposals.

Recent Developments

Before proceeding to deal with policies, I wish to mention some recent developments — the expansion in sugar, the efforts to release the land constraint, and the significant rise in the imports about 45,000 tons and has established a factory with a capacity of fertilizers.

A Tate & Lyle subsidiary has acquired the Corozal Sugar Company Limited which now has a sugar producing capacity of about 45,000 tons and has established a factory with a capacity of about 75,000 tons. This is a significant boost to the country's agriculture. It means that sugar production is likely to be trebled by about 1972. Tate & Lyle is to produce 50% of the throughput. Its operations are being highly mechanised and there is every evidence of efficient production with consequential high productivity both per unit of labour and of land. Unfortunately, the producers of the other 50% of the throughput fail to exhibit similar tendencies towards efficient production.

The attack on the land constraint has taken the form of two measures—a law to give holders of private leases mainly on an annual basis, more secure tenure and thus encourage more permanent agriculture by providing for a lengthened period of notice to quit and for compensation for unexhausted improvements — and a law steeply increasing the tax on unused agricultural land. It is expected that this will make it sufficiently costly to hold unused land and will thus force landowners either to sell to those who will develop or to let the land revert to the Government and thus facilitate the planning of land development.

All that may be said for these two legislative measures is that they may result in an extension of permanent agriculture among tenant peasants and accelerate the pace of land development on the whole. The failure of the Location Ticket System and the fact that in many areas leases have passed from generation to generation within the same family, would tend to indicate that the annual lease *per se* may not be a significant constraining factor. The outcome of the fiscal measure is fraught with uncertainty. If the prospects of speculative gains from land transactions are encouraging—as they were in the recent past—land owners may prefer to pay the increased taxes, or merely give up marginal lands or lands that are not easily accessible. Moreover, there is the uncertainty of what land will be given up and when. Finally, holdings

of up to 100 acres are exempt from the increased land tax although the majority of small owners are no less wasteful in the use of land than the large landowners.

It is worth mentioning, also, that there has been a significant increase in the use of fertilizers in recent years as the following import figures illustrate :—

Table 7 Fertilizer Imports, Br. Honduras, 1960–64
(00 lb)

1960	1961	1962	1963	1964
18,491	10,232	34,572	67,280	95,161

Source : *Br. Honduras Trade Report, 1964.*

The increase started in 1962 and arose from assistance to and the initiative of the citrus growers in rehabilitating their orchards after hurricane "Hattie", the growing awareness of the froghopper menace in the sugar cane fields, and the entry of Tate and Lyle with improved practices of cultivation, into the sugar industry. It is yet too early to comment further on what looks like a healthy trend.

Policy Proposals

The foregoing analysis shows that despite the presumed favourable resource ratio of some 2m. acres of agricultural land to 106,000 people, so far, all the efforts — private as well as public — to develop agriculture, have mainly failed.

The failures of the period up to the second World War to maintain permanent agricultural enterprises, have been repeated in the post war period. There have been surprising similarities in the proximate causes of the failures.

Peasant agriculture has failed to achieve any marked progress in technology. The machette and the axe remain the principal tools. The basic technique is still shifting annually from one plot to another. This requires that an area some six times the plot in use, must be held idle to enable a seven-year rotation. In some areas, the growing demand for land resulting from the rapidly growing population, has led to a shortening of the period of rotation with consequential depressing results on productivity.

The pattern of land holding still reflects a timber rather than an agricultural economy, to the extent that in a situation of relative "land plenty" the government has had to buy land and settle peasants on plots as small as seven acres, and thus per-

petuate low productivity peasant agriculture, while at the same time giving oral support to the revolution of rising expectations.

We have observed that although the outputs of sugar and citrus have increased rapidly and substantially in recent years, productivity lags behind to the extent that neither industry would survive without the special and increasingly precarious market arrangements under which their products are exported.

In the post-war period, the Government has made attempts to establish an agricultural infra-structure and to enter directly into the field of production. It has engaged in most of the text book "musts" for agricultural development — credit, marketing, education, extension, etc., etc. These have failed. The country's development plan states that its economic future depends on agriculture, yet at the present time agricultural education is negligible, and the rural youth who leaves school is destined to follow his great grandfather's footsteps in shifting peasant agriculture.

Agricultural development is a function of a number of factors. Land is only one of many inputs. In a complex matter like agricultural development, it is hazardous to attach weight tags to inputs or factors. However, although Hong Kong for example, has shown that a country can undergo rapid, industrial development with few natural resources, I know of no instance in which agricultural development has been possible without adequate land and without some knowledge of the capability of the land and of the ecological and other conditions that affect production.

A fundamental cause of most of the failures in British Honduras agriculture has been the lack of knowledge of the land, its potential and its capability. The operations of the Colonial Development Corporation provide an example of "blind" entry. There was surprise and disappointment when the United Fruit Company recently concluded its reconnaissance of the banana growing potential of the country and announced that there was not a large enough block of land suitable for commercial growing of bananas. Similar questions emanated from a recent enquiry into the feasibility of a ground-nut enterprise.

Planning for agricultural development must necessarily be rudimentary if in practice it is based on hardly more information than that there are 2m. acres of land suitable for agriculture.

The absence of information has led to planning in a vacuum. Earlier we saw that the Government's many efforts had been implemented without decisions on certain fundamental matters.

The planners had been confused by the conflicting recommendations of eminent experts, missions and commissions. The recommendations of the latter had invariably been based on superficial knowledge rather than on investigation and study. Unless this situation is rectified, further failures and wastes of resources in agriculture seem inevitable.

Planning for agricultural development must be based at least on information about what lands to develop, what pattern of agriculture to promote, in what crops, and by whom.

A Land Use Survey was undertaken some 13 years ago. Maps on a scale 1 : 250,000 have been prepared showing potential land use. However, it will be clear that this was by way of a reconnaissance to be followed by more detailed study of the areas that appear to be the most agriculturally suitable. In view of the patchiness of the soil type distribution,[26] it appears that a desirable starting point would be a refinement of the land use study leading to the production of maps on a scale of say 1 : 25,000 or 1 : 50,000 of the areas indicated by the reconnaissance Survey and supported by other factors to be the potentially most suitable areas for agricultural development. This would provide a preliminary basis for determining subject for example to varietal and economic studies, what the structure of agriculture should be. Once decisions on structure and crops are made, it becomes possible to make a rational decision about who should be engaged in agricultural development, and promotional effort can then be objectively pursued.

If it emerges that a plantation system will maximise income then it must be decided whether the entrepreneurship and the capital are available in the country, or whether they must be sought abroad, or whether both should be used. The role of the population becomes clear and agricultural education and training can be directed towards meeting the specific identified needs.

A similar pattern of thinking would be applied, whatever information emerges from the enquiry and the study which have been proposed.

In this way, planning is placed on a firm basis. It is removed from the realm of plunges into the dark and from the confusions created by conflicting "expert' opinion. Promotion can begin to be based on feasibility studies of specified areas rather than on

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26 Colonial Office **Colonial Research Publication No. 24**, (p. 5). Para. 9. "The soil pattern proved to be intricate — there are very few large areas with uniform soils".

the mere statement that the country has some 2 million acres of agricultural land. The role of the existing peasant becomes clearer. Whether or not immigrants will be needed and their role —yeomen farmers or farm workers — can be settled on the basis of scientific criteria rather than on the basis of extraneous factors. The lands that should be developed are specified and action can be directed to ensure early release for development.

It is not advocated that all agricultural pursuits should cease until the suggested enquiries and studies are completed. Neither is it submitted that the foregoing proposals will provide a panacea for the country's agricultural ills.

It is proposed, however, that the application of the science and technology that is now availabe, to planning agricultural development from the earliest stage— i.e., knowledge of the land, its potential and its capability — provides a body of knowledge of which firm plans for land use and development may be elaborated and the other co-operating factors (economic and non-economic) in agricultural development may be more effectively used.

APPENDIX 1.

MISCELLANEOUS STATISTICS, THE COMMONWEALTH CARIBBEAN, 1960.

	Population 1960 Census	Rural as % of Total Population	Working Population	Agricultural Working Population	% of T.W.P. engaged in Agriculture	Agric. Product as % of G.D.P.	Agricultural Area ('000 acres)	Agricultural Land Used	Gross Domestic Product ($ million)	Agricultural Product	No. Acres Agric. Land per person	% Agric. Land Under Cultivation	No. Agricultural Acres per worker in Agriculture	Value of Output per worker ($)	Value of Output per acre ($)
British Honduras	90.505	46.1	26,029	10,436	40.0	27	2,158	98	36.7	10.0	23.0	4.5	9.42	958	102
Jamaica	1,606,546	70.2	606,823	229,718	37.9	12	1,211	1,040	1,074.8	133.1	0.8	87.0	4.52	579	108
Trinidad & Tobago	827,975	54.3	278,147	55,407	19.9	11	444	333	954.8	108.0	0.53	77.4	6.05	1,963	324
Grenada & Carriacou	88,667	89.5	25,170	10,895	43.3	39	47	52	28.7	11.2	0.53	n.a.	4.81	1,030	215
Antigua & Barbuda	54,060	60.0	17,478	5,438	31.1	25	67	25	22.0	5.4	1.2	37.3	4.6	1,000	216
Barbados	234,575	79.4	85,040	22,440	26.4	28	74	69	127.8	36.4	0.3	93.2	3.1	1,629	530
Dominica	59,916	76.8	22,477	11,693	52.0	43	32	45	20.9	9.0	0.5	n.a.	3.9	770	200
St. Kitts, Nevis & Anguilla	56.693	53.9	18,991	8,565	45.1	43	49	31	21.0	9.1	0.9	63.2	3.64	1,070	293
St. Lucia	86,108	82.3	28,544	15,144	53.1	35	56	55	25.9	9.1	0.65	98.0	3.6	607	165
St. Vincent	81,466	80.4	23,310	9,954	42.7	41	42	30	22.8	9.3	0.5	70.0	3.03	930	310

Sources: (1) **A Digest of W.I. Agricultural Statistics,** U.W.I., 1965
(2) **British Honduras Digest of Statistics 1965,** Ministry of Finance and Development, British Honduras.